DOCKETED	
Docket Number:	19-SPPE-05
Project Title:	Mission College Data Center SPPE
TN #:	232798
Document Title:	Mission College Data Center Initial Study and Proposed Mitigated Negative Declaration
Description:	Mission College Data Center Initial Study and Proposed Mitigated Negative Declaration
Filer:	Steve Kerr
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	4/20/2020 8:16:06 PM
Docketed Date:	4/21/2020

MISSION COLLEGE DATA CENTER

Initial Study and
Proposed Mitigated Negative Declaration

CALIFORNIA
ENERGY
COMMISSION
Gavin Newsom,
Governor

April 2020
CEC-700-2020-003

DOCKET NUMBER 19-SPPE-05

Initial Study

Mission College Data Center

(19-SPPE-05)

Lead Agency

California Energy Commission

April 2020

Table of Contents

1. Proposed Mitigated Negative Declaration and SPPE Recommendation ... 1-1
2. Environmental Determination ... 2-1
3. Introduction to the Initial Study ... 3-1
4. Project Description ... 4-1
5. Environmental Setting and Environmental Impacts ... 5.1-1
   - 5.1 Aesthetics ... 5.1-1
   - 5.2 Agriculture and Forestry Resources ... 5.2-1
   - 5.3 Air Quality ... 5.3-1
   - 5.4 Biological Resources ... 5.4-1
   - 5.5 Cultural and Tribal Cultural Resources ... 5.5-1
   - 5.6 Energy and Energy Resources ... 5.6-1
   - 5.7 Geology and Soils ... 5.7-1
   - 5.8 Greenhouse Gas Emissions ... 5.8-1
   - 5.9 Hazards and Hazardous Materials ... 5.9-1
   - 5.10 Hydrology and Water Quality ... 5.10-1
   - 5.11 Land Use and Planning ... 5.11-1
   - 5.12 Mineral Resources ... 5.12-1
   - 5.13 Noise ... 5.13-1
   - 5.14 Population and Housing ... 5.14-1
   - 5.15 Public Services ... 5.15-1
   - 5.16 Recreation ... 5.16-1
   - 5.17 Transportation ... 5.17-1
   - 5.18 Utilities and Service Systems ... 5.18-1
   - 5.19 Wildfire ... 5.19-1
   - 5.20 Mandatory Findings of Significance ... 5.20-1
   - 5.21 Environmental Justice ... 5.21-1
6. Authors and Reviewers ... 6-1

Appendix A: Project's Jurisdictional and Generating Capacity Analysis
Appendix B: Silicon Valley Power System Details
Appendix C: Mailing Lists
Appendix D: Letter Affirming City of Santa Clara Acceptance of Responsibility for Mitigation

Section 1

Proposed Mitigated Negative Declaration and SPPE Recommendation

Proposed Mitigated Negative Declaration and SPPE Recommendation

Mission College Data Center Project

19-SPPE-05

1. Proposed Mitigated Negative Declaration

1.1 Project Information

Project: Mission College Data Center
2305 Mission College Boulevard
Santa Clara, California

Applicant: Oppidan Investment Company
Represented by DayZen, LLC
2501 Capitol Avenue, Suite 201
Sacramento, CA 95816

Oppidan Investment Company (Applicant) filed an application with the California Energy Commission (CEC) requesting a Small Power Plant Exemption (SPPE) for the Mission College Backup Generating Facility (MCBGF), which would provide up to 78.1 megawatts (MW) of backup generation to support the Mission College Data Center (MCDC), collectively the "project", in Santa Clara, California.

The CEC is responsible for reviewing, and ultimately approving or denying, all thermal power plants, 50 megawatts (MW) and greater, proposed for construction in California. The SPPE process allows applicants with thermal power plants between 50 and 100 MW to obtain an exemption from the CEC's jurisdiction and proceed with local permitting rather than requiring certification by the CEC. The CEC can grant an exemption if it finds that the proposed facility would not create a substantial adverse impact on the environment or energy resources. Section 25519(c) of the Public Resources Code designates the CEC as the California Environmental Quality Act (CEQA) lead agency, as provided in section 21165 of the Public Resources Code, for all thermal power plants that seek an exemption from the CEC's power plant certification process. CEQA requires the lead agency to consider the whole of the action; therefore, CEC staff has included the construction and operation of the data center in the environmental analysis of the backup generation facility.

1.2 Introduction

Pursuant to CEQA, the CEC staff prepared an Initial Study (IS) for the proposed project to determine if any significant adverse effects on the environment would result from project implementation. The IS utilizes the environmental checklist outlined in Appendix G

of the *CEQA Guidelines*. If the IS for the project indicates that a significant adverse impact could occur, an Environmental Impact Report would be required.

According to Article 6 (Negative Declaration Process) and Section 15070 (Decision to Prepare a Negative Declaration or Mitigated Negative Declaration) of the *CEQA Guidelines*, a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

(a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or

(b) The initial study identifies potentially significant effects, but:

(1) Revisions in the project plans or proposals made by, or agreed to by, the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

(2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

1.3 Project Description

The project site is located at 2305 Mission College Boulevard within the City of Santa Clara. The project would include construction of two, three-story data center buildings encompassing a total square footage of 490,000, and 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 generation facility would 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 with backup power and redundant backup power. Project elements would also include switchgear and distribution cabling to interconnect the two generation yards to their respective buildings. Two house power diesel fired generators, each capable of generating 600 kilowatts (kW) to support its respective building phase in an emergency, are also proposed. The MCDC would be supplied electricity by Silicon Valley Power (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.

1.4 Environmental Determination

The IS was prepared to identify the potential environmental effects resulting from proposed project implementation, and to evaluate the level of significance of these effects. The IS is based on information from the applicant's SPPE application and associated submittals, site visits, data requests and responses, and additional staff research.

Based on the analysis in the IS, staff has determined that all project-related environmental impacts could be reduced to a less than significant level with applicant proposed design measures or the incorporation of feasible mitigation measures. Therefore, adoption of a Mitigated Negative Declaration (MND) will satisfy the requirements of CEQA. In accordance with the criteria in Section 15370 of the *CEQA Guidelines*, the mitigation measures included in this MND are designed to reduce or eliminate the potentially significant environmental impacts described in the IS. Where a measure has been previously incorporated into the project as a specific project design feature, this is noted in the technical sections.

1.5 Project Design Measures

The applicant has incorporated features and best management practices in the project design that are intended to avoid and reduce potential impacts from the project. These project design features are consistent with best practices and existing regulatory requirements. Staff has treated the measures listed below as part of the project being analyzed.

Air Quality

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

1 This is a reference to the 2018 Mitigated Negative Declaration prepared by the City of Santa Clara and included as an appendix to the SPPE application.

- 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 85 percent reduction in particulate matter exhaust; alternatively (or in combination)
- Use of diesel construction equipment that meets U.S. EPA Tier 4 interim or 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.

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.

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).

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.

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.

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.

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 to 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.

1.6 Required Mitigation Measures

Staff identified mitigation measures in the technical areas of Biological Resources and Geology and Soils. These measures, and information on the applicant design measure language being replaced (where applicable) are described in **Section 5.4 Biological Resources** and **5.7 Geology and Soils** and are listed below. See *Applicant Acceptance of Mitigation Measure Language* (TN 232673) for more information.

Biological Resources

MM BIO-1: Nesting Bird Avoidance and Minimization Measures. If construction, tree removal, or vegetation clearing occurs during the nesting season (February 1 through August 31), an ornithologist or other qualified biologist shall conduct pre-construction nest survey(s) no more than 14 days prior to the initiation of the aforementioned activities within 500 feet of trees/vegetation. Surveys shall be repeated if project activities are suspended or delayed for more than 14 days during the nesting season. The ornithologist or other qualified biologist (with at least a bachelor's degree in a biological science field and demonstrated field expertise in avian species) shall be approved by the City of Santa Clara. The size of all buffer zones shall initially be a 250-foot radius around the nest of non-raptors and a 500-foot radius around the nest for raptors. Any changes to a buffer zone must be approved by the City of Santa Clara in consultation with California Department of Fish and Wildlife (CDFW). The nests and buffers shall be field checked weekly by the approved ornithologist or other qualified biologist. The approved buffer zone shall be marked in the field with exclusion fencing, within which no construction, tree removal, or vegetation clearing shall commence until the ornithologist or other qualified biologist

and the City of Santa Clara to verify that the nest(s) are no longer active. If Western burrowing owl are discovered residing on the project at any time during construction outside the nesting season, then a buffer area shall be established and observed, until the animal can be passively relocated out of the construction area in accord with the CDFW 2012 guidance titled "Staff Report on Burrowing Owl Mitigation" and/or any applicable future guidance.

MM BIO-2: Nesting Bird Survey Report. The qualified biologist shall submit a copy of the pre-construction nest survey report(s) to the City of Santa Clara planning department prior to construction for review and approval. The report(s) shall contain maps showing the location of all nests, species nesting, status of the nest (e.g. incubation of eggs, feeding of young, near fledging), and the buffer size around each nest. The report shall be provided within 10 days of completing a pre-construction nest survey.

Geology and Soils

MM GEO-1: Implement a Worker Environmental Awareness Training Program that would provide training to construction personnel regarding proper procedures (including identification and notification) in the event fossil materials are encountered during construction. If a fossil is found and determined by the approved paleontologist to be significant and avoidance is not feasible, the qualified paleontologist shall develop and implement an excavation and salvage plan in accordance with Society of Vertebrate Paleontology standards. Construction work in these areas shall be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall then be deposited in a scientific institution with paleontological collections. A final Paleontological Mitigation Plan Report shall be prepared that outlines the results of the mitigation program. The city shall be responsible for ensuring that the paleontologist's recommendations regarding treatment and reporting are implemented.

1.7 Hazardous Waste Sites

According to a review of the Envirostor and GeoTracker databases, the project site does not have any known, open cases on the hazardous materials sites compiled pursuant to Government Code section 65962.5.

1.8 Airport Impacts

CEQA requires that prior to adoption of a mitigated negative declaration for a project located within the boundaries of a comprehensive airport land use plan, the lead agency must first consider whether the project will result in a safety hazard or

noise problem for persons using the airport or for persons residing or working in the project area.[2]

The project site is located approximately 1.6 miles northwest of the Norman Y. Mineta San Jose International Airport. This location is within the Airport Influence Area and subject to the Comprehensive Land Use Plan (CLUP) for the airport, but outside all Airport Safety Zones identified in the CLUP. The IS concluded that the project would not result in hazards to aircraft from either a geometric design feature, such as structure height, or incompatible uses, including thermal plumes. The IS also determined that the project would comply with City of Santa Clara noise standards and that noise from the project would not combine with the airport's noise to expose people to excessive noise levels. Further, staff found the project consistent with the policies of safety, height, and noise contained within the CLUP. Staff therefore concludes that the project would not result in a safety hazard or noise problem for persons using the airport or for persons residing or working in the project area.

2 Proposed CEQA Finding

Based on the Initial Study, staff proposes that the CEC find that the project will not have a significant effect on the environment.

3 Small Power Plant Exemption Recommendation

As discussed in detail in **Appendix A** of the Initial Study, staff calculated a net deliverable or useable electricity capacity of more than 50 MW and less than 100 MW from the MCBGF, qualifying it for a Small Power Plant Exemption under the capacity criterion. While the backup generating facility has an apparent installed generation capacity greater than 100 MW (43 gensets, each with 2.5 MW peak capacity), the "extra" MW installed are redundant and not able to operate unless other generating units fail to operate; that is, there are physical constraints that would prevent them from operating. The proposed redundancies built into the design of the facility are to ensure performance reliability, not to generate and supply the MCDC with more than 78.1 MW of electricity.

Staff recommends that the MCBGF be exempted from CEC jurisdiction and that permitting be handled at the local level because:

1. The facility will not generate electricity in excess of 100 megawatts.
2. The construction and operation of the facility will not result in a substantial adverse impact on the environment.
3. The construction and operation of the facility will not result in a substantial adverse impact on energy resources.

2 CEQA Guidelines, § 15074, subd. (e).

Section 2

Environmental Determination

2. Environmental Determination

2.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" and requiring implementation of mitigation as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture & Forestry Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural and Tribal Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Utilities/Service Systems
☐ Wildfire	☒ Mandatory Findings of Significance	

2.2 Environmental Determination

On the basis of this initial evaluation:

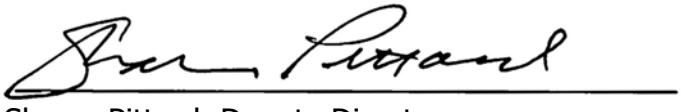
☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☒ In my capacity as Deputy Director of the Siting, Transmission, and Environmental Protection Division, I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** has been prepared.

☐ I find that the Proposed Project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐ I find that the Proposed Project may have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.



April 20, 2020

Shawn Pittard, Deputy Director
Siting, Transmission and Environmental Protection Division
California Energy Commission

Date

Section 3

Introduction to the Initial Study

3. Introduction to the Initial Study

3.1 Energy Commission Jurisdiction and the Small Power Plant Exemption (SPPE) Process

The California Energy Commission (CEC) is responsible for reviewing, and ultimately approving or denying, all thermal electric power plants, 50 megawatts (MW) and greater, proposed for construction in California. The California Public Resources Code section 25541 authorizes the CEC to exempt thermal power plants of a certain size from its jurisdiction. This provision, along with the regulatory process implementing it, is referred to as the Small Power Plant Exemption (SPPE) process, and allows applicants with thermal power plants between 50 and 100 MW to obtain an exemption from the CEC's jurisdiction and proceed with local permitting rather than requiring a CEC license. CEC can grant an exemption if it finds that the proposed facility would not create a substantial adverse impact on the environment or energy resources.

3.2 CEQA Lead Agency

In accordance with section 25519(c) of the Public Resources Code and the California Environmental Quality Act (CEQA), CEC serves as the lead agency to review an SPPE application and perform any required environmental analyses. Upon granting of an exemption, local permitting authorities - in this case the City of Santa Clara and Bay Area Air Quality Management District - would perform any follow-up CEQA analysis and impose mitigation, as necessary, for granting approval of the project.

3.3 Purpose of the Analysis

The purpose of this document is to provide objective information regarding the environmental consequences of the proposed project to the public and to Commissioners who will be reviewing and considering the applicant's request for an SPPE, which would exempt the facility from CEC's power plant certification process.

3.4 CEQA Analysis Format

The environmental analysis of an SPPE typically takes the form of an Initial Study (IS), which is prepared to conform to the requirements of CEQA, the CEQA Guidelines (California Code of Regulations 15000 et. seq.), and CEC's regulations and policies. The IS is based on information from the applicant's SPPE application and associated submittals, site visits, data requests and responses, and additional staff research.

The Mission College Data Center project consists of two primary components—the Mission College Data Center (MCDC) and the Mission College Backup Generating Facility (MCBGF)—which together represent the whole of the action. For a more complete description of the project, please see **Section 4 Project Description**.

This IS evaluates the potential environmental impacts that might reasonably be anticipated to result from the construction and operation of the project. Staff's analysis is broken down into issue areas derived from CEQA Appendix G:

Aesthetics	Land Use and Planning
Agricultural and Forestry Resources	Mineral Resources
Air Quality	Noise
Biological Resources	Population and Housing
Cultural and Tribal Resources	Public Services
Energy	Recreation
Geology and Soils	Transportation
Greenhouse Gases	Utilities and Service Systems
Hazards and Hazardous Materials	Wildfire
Hydrology and Water Quality	Mandatory Findings of Significance

In addition, CEC CEQA analysis documents include an analysis of Environmental Justice.

For each subject area, the analysis includes a description of the existing conditions and setting related to the subject area, an analysis of the proposed project's potential environmental impacts, and a discussion of mitigation measures, if necessary, to reduce potentially significant impacts to less than significant levels.

3.5 Notification and Coordination

Noticing of documents is governed by both CEC's regulations set forth in California Code of Regulations Title 20 and the CEQA guidelines set forth in Title 14. The specific noticing requirements depend on the document at issue and are described below.

Application for Small Power Plant Exemption:

The Application for Small Power Plant Exemption (Application for Exemption) is filed by the project applicant to initiate the exemption proceeding. Noticing of the Application for Exemption is set forth in Title 20 section 1936(d) which requires that a summary of the Application for Exemption be sent to public libraries in the communities near the proposed site as well as libraries in Eureka, Fresno, Los Angeles, San Diego and San Francisco and to any person who requests such mailing. The summary is also required to be published in a newspaper of general circulation in the county of the project site. In this case the advertisements ran in the San Jose Mercury News (in English) and the World Journal (in Mandarin). The relevant mailing lists covering the requirements of section 1936(d) are found in **Appendix C**.

In addition to the required noticing set forth in section 1936(d), CEC staff provided public notice of the Application for Exemption on January 3, 2020 through a Notice of

Receipt (NOR). This notice was mailed to property owners and occupants within 1,000 feet of the project site and 500 feet of project linear facilities. The NOR was also mailed to a list of environmental and environmental justice organizations developed in collaboration with the Public Advisor's Office with the goal of reaching groups with potential interest in energy generation projects in the Santa Clara region. The NOR pointed recipients to the CEC project webpage and included instructions on how to sign up for the project list serve to receive electronic notification of events and the availability of documents related to the SPPE proceeding. The relevant mailing lists staff used for this outreach can be found in **Appendix C**.

Staff also provided notification to stakeholder agencies via an Agency Request for Participation letter. This letter provided information on how to participate in CEC's evaluation and decision-making process to agencies with potential interest in the project, most notably the California Department of Fish and Wildlife, the Regional Water Quality Control Board, the local Air Pollution Control District, and various departments of the City of Santa Clara's local government. The mailing list used to engage with stakeholder agencies can be found in **Appendix C**.

Staff conducted further outreach to and consultation with regional tribal governments as described in **Section 5.5 Cultural and Tribal Cultural Resources**.

Initial Study and Proposed Mitigated Negative Declaration:

The process for public notification of the Initial Study and Proposed Mitigated Negative Declaration (IS/PMND) is set forth in section 15072 of the CEQA guidelines and requires a least one of the following procedures:

1. Publication at least one time in a newspaper of general circulation in the area affected by the proposed project.
2. Posting of notice by the lead agency on and off site in the area where the project is to be located.
3. Direct mailing to the owners and occupants of property contiguous to the project.

To comply with section 15072, staff mailed notification of the IS/PMND to all owners and occupants not just contiguous to the project site but also to property owners and occupants within 1,000 feet of project site and 500 feet of project linear facilities.

A Notice of the Intent to Adopt a Mitigated Negative Declaration will also be filed with the State Clearinghouse. A State Clearinghouse receipt including the list of all state agencies receiving notice through the State Clearinghouse process will be filed in the project docket.

Section 4

Project Description

4. Project Description

Oppidan Investment Company (Oppidan or Applicant) is seeking a Small Power Plant Exemption (SPPE) from the California Energy Commission's (CEC) jurisdiction to proceed with local permitting rather than requiring certification by the CEC for the Mission College Backup Generating Facility (MCBGF) portion of its proposed Mission College Data Center (MCDC or project).

4.1 Project Title

Mission College Data Center

4.2 Lead Agency Name and Address

California Energy Commission
1516 Ninth Street
Sacramento, California 95814

4.3 Lead Agency Contact Person and Phone Number

Leonidas Payne, Project Manager
Siting, Transmission and Environmental Protection Division
California Energy Commission
(916) 651-0966

4.4 Project Location

Figure 4-1 shows the regional location and **Figure 4-2** identifies the project location.

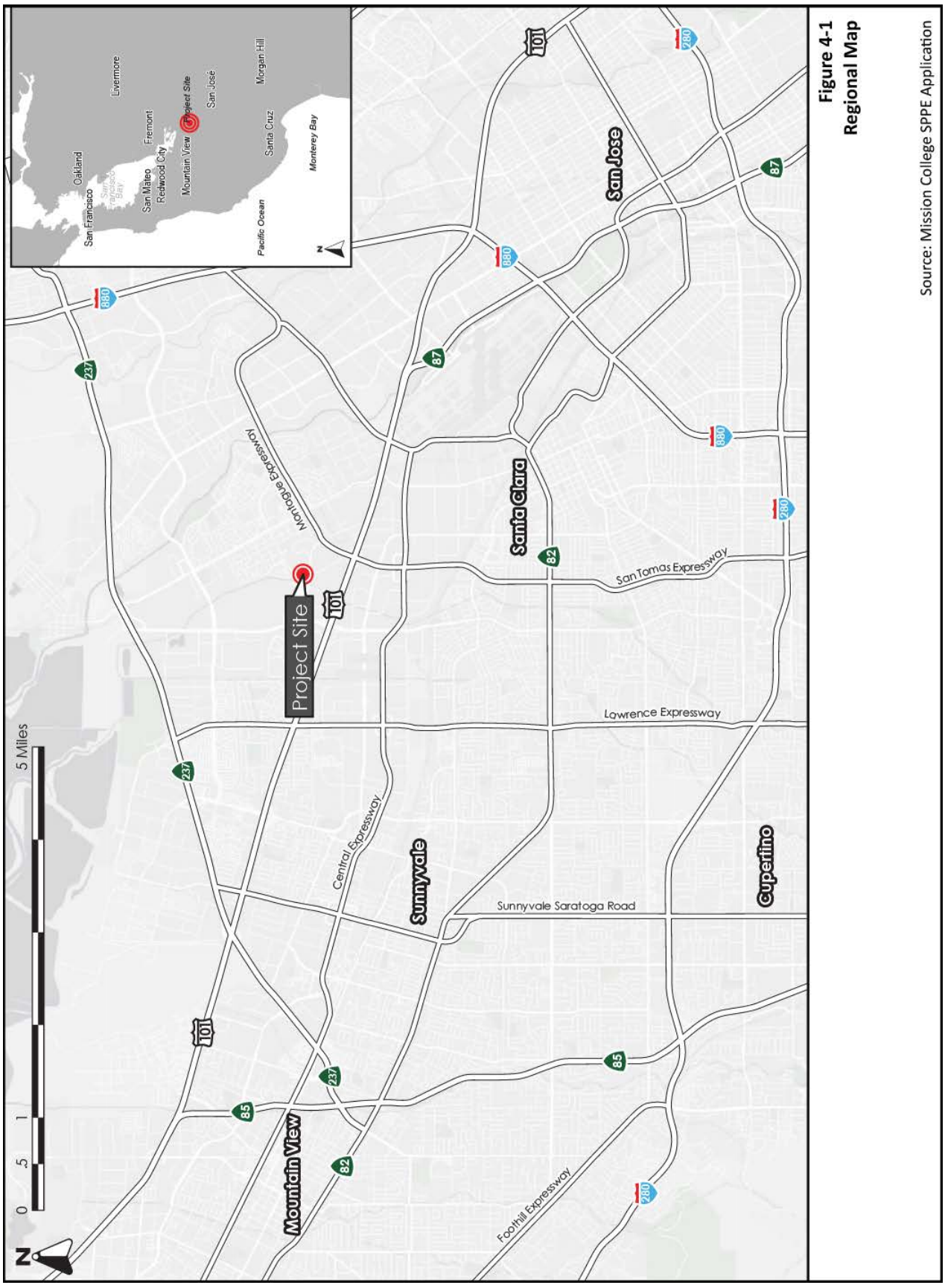


Figure 4-1
Regional Map

Source: Mission College SPPE Application

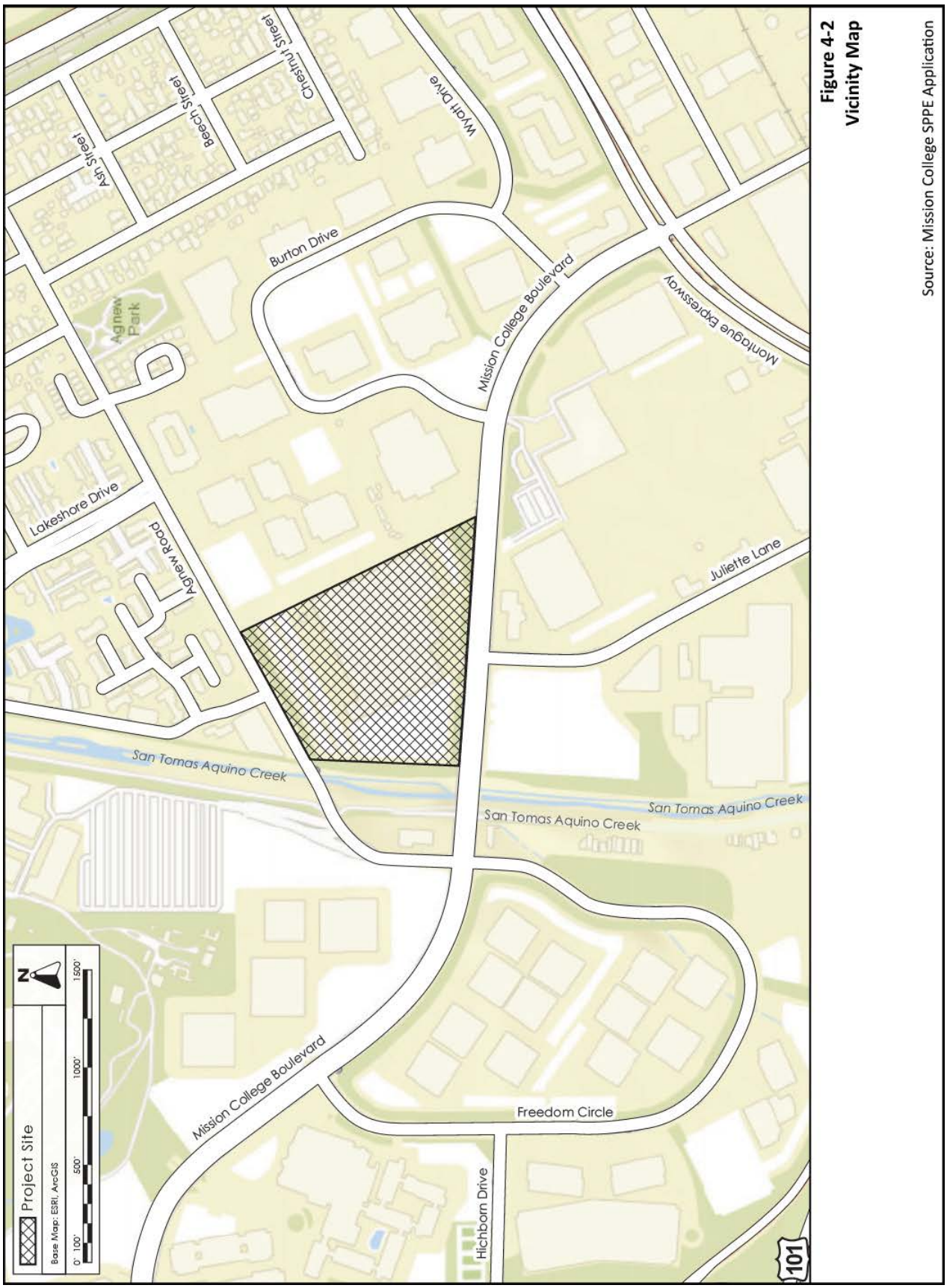


Figure 4-2
Vicinity Map

Source: Mission College SPPE Application

4.5 Project Overview

The MCDC is a data center development project proposed for construction on a 15.78-acre site, located at 2305 Mission College Boulevard, within the City of Santa Clara. The Santa Clara County assessor's parcel number for the site is 104-13-096. The site was previously developed with a two-story 358,000 square foot (sf) office/research and development (R&D) building and a paved parking lot. The office/R&D building and existing improvements on the site are currently being demolished under a city-issued demolition permit. The project would construct two data center buildings encompassing a total of 490,000 square feet. Phase I would be a three-story 279,840 square foot 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 would be a three-story 210,160 square foot 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 be approximately 88 feet in height. The buildings would include a rooftop penthouse to enclose mechanical equipment; the structure height to the top of the penthouse would be 108.25 feet from adjacent grade. The Phase I building would be located on the eastern portion of the site and would 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 would be located in the western portion of the site and would 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.

The data center buildings would house computer servers for private clients in a secure and environmentally controlled structure. 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 cooling system would be an evaporative system that relies on roof-mounted up-blast fans to circulate air over the computer servers. The cooling system would use recycled water. Total MCDC facility load is estimated at approximately 78.1 megawatts (MW) (see **Appendix A**).

The MCBGF would 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. In addition, the MCBGF would include two house power diesel fired generators, each capable of generating 600 kilowatts (kW) to support its respective building phase in an emergency. Project elements would also include switchgear and distribution cabling to interconnect the two generation yards to their respective buildings. Each generation yard would be electrically interconnected to the building it serves through an above ground cable bus to a location within the building that houses electrical distribution equipment.

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 would include three 45 MVA 60 kV-34.5 kV step-down transformers in a 2+1 configuration. Only two transformers would run at a given time with the third transformer in reserve. The substation would have an all-weather asphalt surface underlain by an aggregate base. The substation would be surrounded by Silicon Valley Power's (SVP) 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 12 kV underground distribution lines. The substation would be constructed after completion of the Phase I building.

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

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 would 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.

Figure 4-3 shows the general arrangement and site layout of the project. Elevation drawings are presented on **Figures 4-4 and 4-5**.

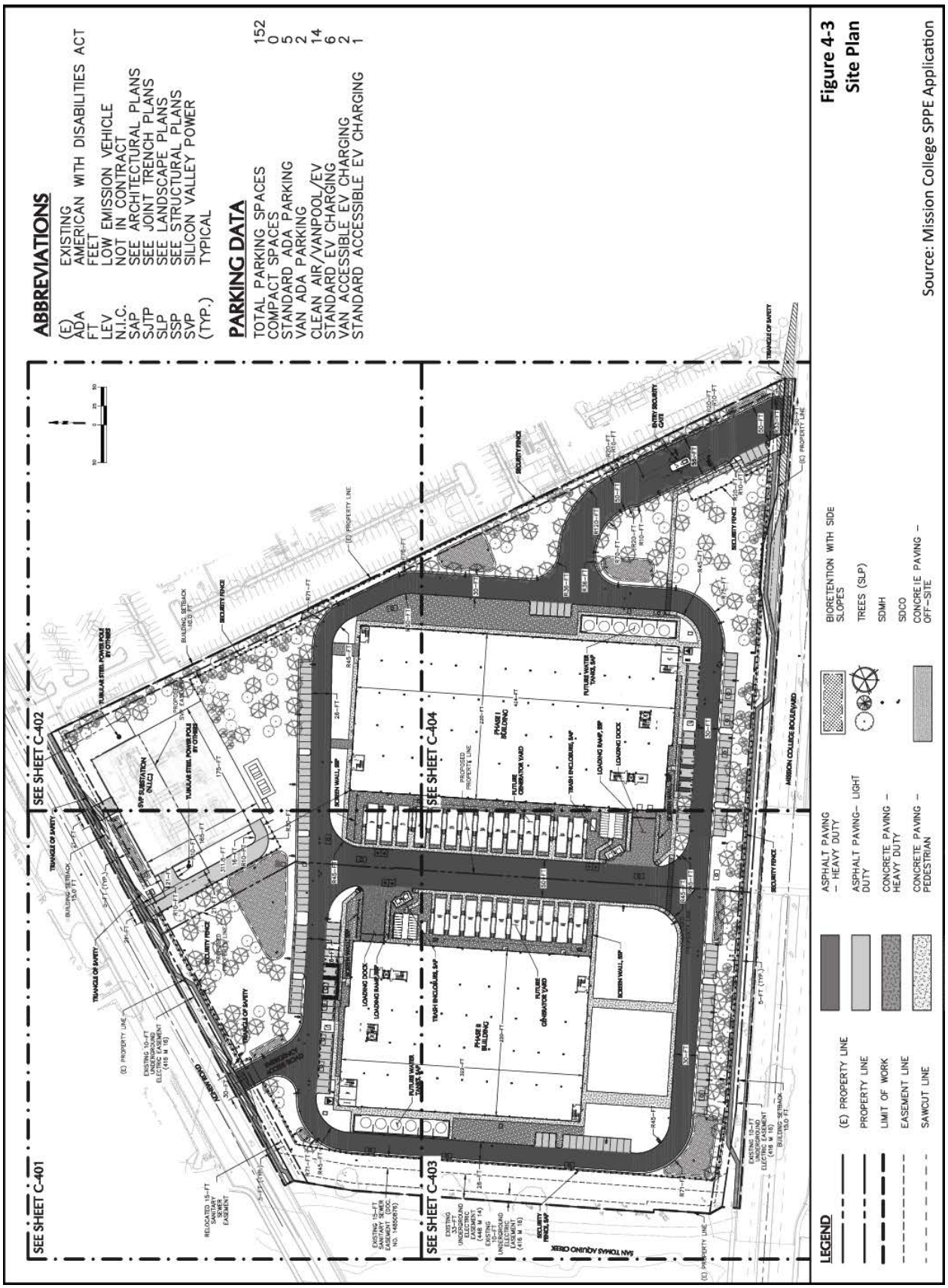


Figure 4-3
Site Plan

Source: Mission College SPPE Application

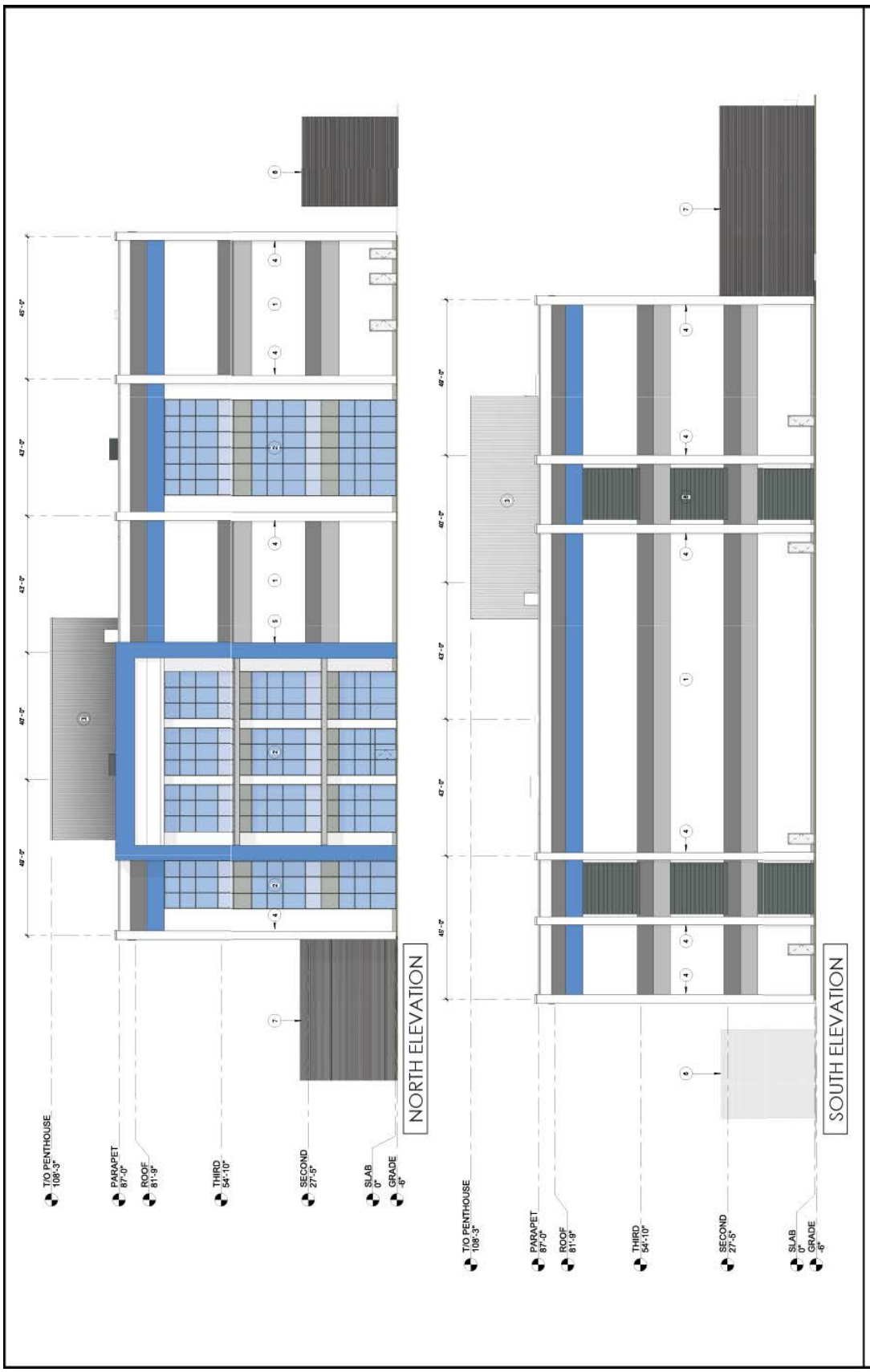


Figure 4-4
North and South Building Elevations

Source: Mission College SPPE Application

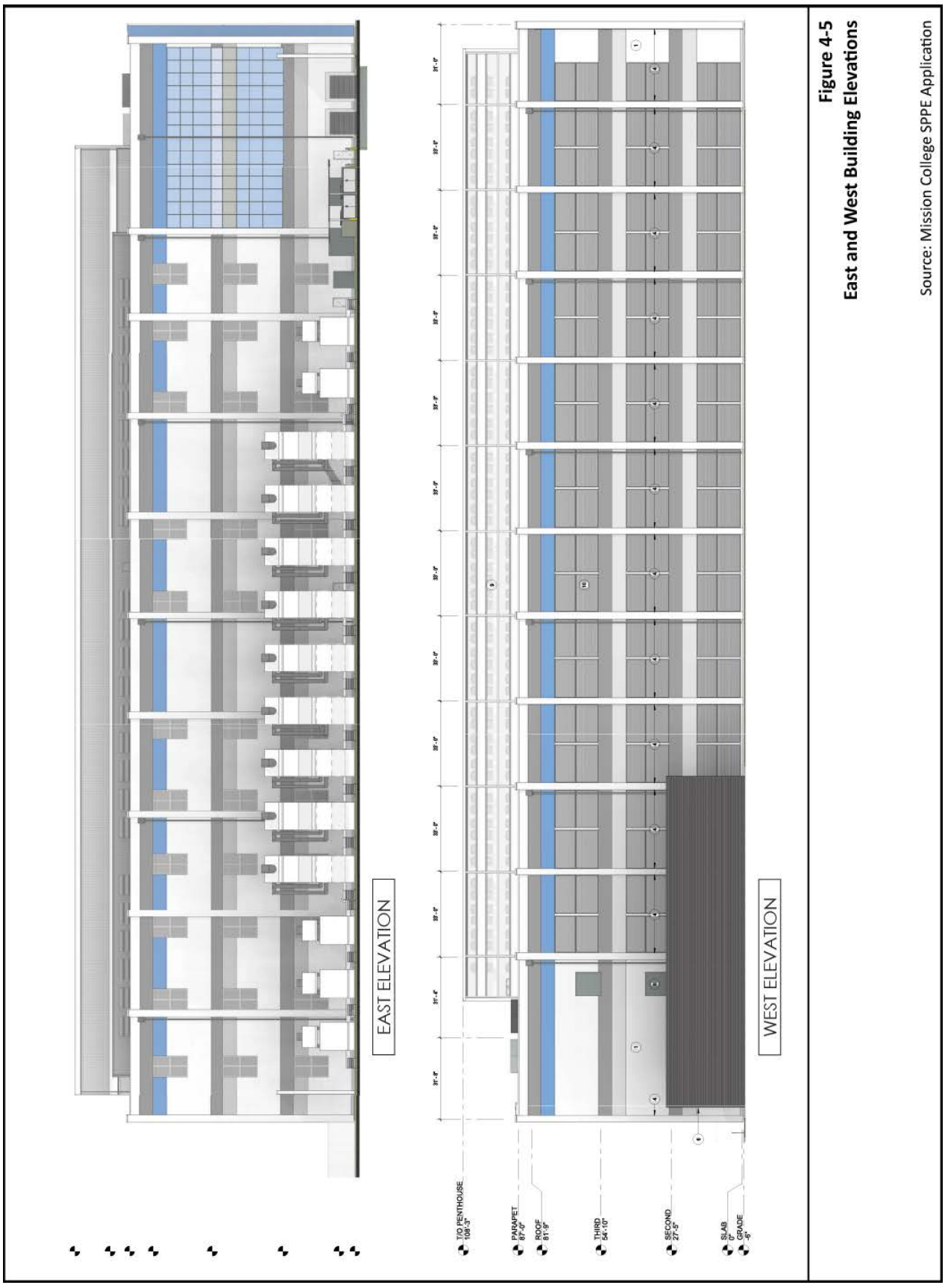


Figure 4-5
East and West Building Elevations

Source: Mission College SPPE Application

Electrical Supply

Electricity for the Mission College Data Center (MCDC) would be supplied via a new Freedom Circle Junction constructed on the project site, connecting through SVP's 60 kV Northeast Loop (NE Loop). The proposed MCDC would be a four-bay 60kV Junction consisting of four transformers that straddle a parcel line dividing the Junction in half. The 60 kV Northeast Loop is fed from both the Northern Receiving Station (NRS) and Kifer Receiving Station (KRS). Both NRS and KRS are 115/60 kV receiving stations and each has two 115/60 kV transformers for 100 percent redundancy and reliability. Currently, the loads on the Northeast Loop can be fully supplied through either receiving station. Thus, the NE Loop has equivalent reliability to other loops on the SVP system.

Silicon Valley Power System Reliability

The SVP 60 kV loop systems are designed to provide reliable electric service to customers. The looped interconnection allows SVP to provide continuous electricity to customers even under contingency conditions, when one part of the electric network is not functioning. The interconnections for data centers, like the MCDC, on the SVP 60 kV system are designed with redundant equipment throughout such that there is no single point of failure. It takes at least two contingencies before customers on the 60 kV system lose power and, in the case of data centers, would instead rely on backup generators. According to SVP, double outages on the 60 kV loop systems are extremely rare, and the data supports this (see **Appendix B**).

SVP provided a list of all of the outages on its 60 kV system over the last ten-years. There were thirty-one outages, only four of which resulted in customers being without power. This means that in twenty-seven of these outages the redundant design of the system prevented customers from being without power; data centers would not have isolated from the grid and would not have relied on their back-up generators. Only two outages from 2009 to 2019 affected data centers in the SVP service territory. One approximately 7.5-hour outage on May 28, 2016, which was the result of two contingencies (a balloon and a breaker failure), affected two data centers. Another 12 minute outage on December 2, 2016 affected four data centers. SVP's root cause analysis of this outage resulted in changes in maintenance procedures to ensure that breakers are reset before power is restored to a portion of the system that was down for maintenance. Outages would be extremely rare, and the consequences or effects on the fleet of data centers, almost negligible.

Wildfire policies could impact SVP's ability to supply power to customers if curtailments on the Pacific Gas and Electric (PG&E) system interrupt SVP's access to its remote electricity supplies. A Public Safety Power Shutoff (PSPS) essentially de-energizes power lines in order to prevent the lines from causing or being damaged by wildfires. The PSPSs to date have been generally limited to high fire risk zones and only implemented under special conditions. While the SVP service territory and the SVP's primary PG&E bulk transmission line interconnection points are not in high risk zones, a line de-energization in one of PG&E's high risk fire zones to reduce the risk of lines causing a wildfire could

reduce the SVP electricity transmission access and supply through PG&E lines. The future impact of safety shutoffs on the PG&E system are not currently known – to date, two broadly implemented PSPSs in PG&E service territory last fall had no impact on SVP and its customers. As the utilities and regulators try to balance the costs and benefits of PSPS by fine tuning and targeting the implementation, the most likely outcome is that future PSPS would have even less potential effects on SVP service territory. SVP has the ability to produce about 200 MW through generators located locally, and can adapt to planned outages on the PG&E system just as they have reacted or recovered from unplanned outages in the past to maintain reliable and high quality electricity supplies to their service territory customers.

Electrical System Engineering

The MCDC's purpose is to provide its customers with mission-critical space to support their servers, including space conditioning (temperature control) 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. To ensure a reliable supply of high-quality power, the MCBGF was designed to provide backup electricity to the MCDC only in the event 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 buildings, the servers would be connected to uninterruptible power supply (UPS) systems that store energy and provide near-instantaneous protection from power quality transients and power interruptions. To provide electricity during a prolonged electrical interruption, a backup power generation source is required to continue supplying steady power to the servers and other equipment. The MCBGF would provide that backup power.

Each electrical system would consist of a UPS system that would be supported by batteries, electrical switchgear, an electrical inverter, and portions of the MCBGF backup generation. The UPS batteries would protect the load against surges, sags, under voltage, and voltage fluctuation without fully isolating MCDC from the grid and initiating operation of the MCBGF. However, if the UPS sensed a complete loss of grid power, it would isolate MCDC from the grid, supply power from its batteries to maintain data integrity while the standby generators in MCBGF started and came up to synchronized speed to deliver IT and building load power during grid isolation; the UPS would continue to condition the power from MCBGF to prevent MCBGF power quality transients from damaging MCDC equipment. The load would be automatically transferred to the bypass line without interruption in the event of an internal UPS malfunction.

Each electrical system would consist of a UPS system that would be supported by batteries and a means for automatic switching between UPS and normal power. The UPS system that would be deployed at the MCDC to provide backup to the IT loads would consist of two power shelves within each individual rack. Each rack power shelf would 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 15 kilowatts (kW) of power.

The UPS systems provided for all non-IT loads would 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 would be deployed at the MCDC would consist of two parallel 1000kW rated UPS units would be paralleled together to provide "N Unit" of redundant Critical Capacity of 2 MW. The two UPS units would share a potential 2 MW of critical load by employing load sharing capabilities inherent to the UPS design. The power inputs of the two UPS units would be electrically connected to a single main switch board. This main switch board would be connected to a dedicated 2800 kilovolt-ampere utility transformer as well as dedicated to one of the MCBGF proposed 2.5MW 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.

Backup Electrical Generation Yards, Equipment, and Fuel System

The backup generators would be located at the MCDC site in generation yards at two separate locations within the site. Each generation yard would be adjacent to the building it serves. Twenty three (23) of the emergency backup generators would be dedicated to support the MCDC eastern building, which is designated as Phase I. Twenty (20) of the emergency backup generators would be dedicated to support MCDC western building, which is designated as Phase II. Additionally, each generator yard would also include one house power generator.

Each of the larger 43 generators would be a Tier-2 standby diesel fired generator equipped with diesel particulate filters (DPF). The generators would 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 would be a Tier-2 standby diesel fired generator. The generators would be a Caterpillar Model C18 600ekW. The maximum peak generating capacity of this model is 600 kW with a continuous generating capacity of 420 kW.

Each individual generator would be provided with its own package system. Within that package, the prime mover and alternator would be made ready for the call for immediate power.

Some of the generators would be supported in a stacked configuration for Phase I and all of the generators would be stacked for Phase II. For Phase I, there would be two

levels. Two thirds of the generators would be placed on a concrete slab and the last third would be on a second level directly above the ground with the generators mounted on a steel support structure. Phase II generators would be configured with half of the generators placed on a concrete slab with the other half on a second level support structure.

There are 3 different generator package types. The first type are single level generators. This package would 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 would 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 would have a dedicated day tank of 500 gallons.

The generators are approximately 13 feet 6 inches wide, 51 feet 5 inches long, and 12 feet 2 inches high. Each unstacked generator would have a stack height of approximately 25.1 feet. Each stacked generator would have a stack height of approximately 38.4 feet. The 600kW house power generators would have a stack height of approximately 15.1 feet. The stacks would exhaust vertically and would not have rain caps.

When placed on slab, the generators would be spaced approximately 7 feet apart horizontally, while the second level of generators would be mounted 30 feet above the ground. The 600kW house power generator would 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 would not be in a stacked configuration.

Backup Generator Cooling System

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

Building Cooling System

The building cooling system would 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.

Water Supply and Use

Construction of the MCDC including the MCBGF is estimated to utilize 1.84 acre-feet of water during Phase I and 0.61 acre-feet of water during Phase II.

The MCDC would require water when outside air temperatures exceed 80 degrees Fahrenheit. The data center would be designed to use recycled water when supply is available and provided by the City of Santa Clara, and a potable water connection that would be provided as a back-up source to the recycled water system. Total water use at

full buildout of the MCDC would be approximately 24.4 acre-feet per year (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.

Recycled water from the City of Santa Clara water utility would be utilized for building cooling via the evaporative cooling system. The MCBGF would not require any consumption of water.

Recycled water from the City of Santa Clara water utility would also be utilized for landscape irrigation.

Hazardous Materials Management

The MCBGF would 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 tank 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 would be delivered on an as-needed basis in a compartmentalized tanker truck. The tanker truck would park 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 would be blocked off by the truck driver and/or facility staff during fueling events. Rubber pads or similar devices would be kept in the generation yard to allow quick blockage of the storm sewer drains during fueling events.

To further minimize the potential for diesel fuel to come into contact with storm water, to the extent feasible, fueling operations would be scheduled at times when storm events are improbable.

Warning signs and/or wheel chocks would be used in the loading and/or unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed transfer lines. An emergency pump shut-off would be utilized if a pump hose breaks while fueling the tanks. Tanker truck loading and unloading procedures would be available at the offices.

4.6 Existing Site Condition

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

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 Jose International Airport is located approximately 1.6 miles southeast and the site is bordered by San Tomas Aquino Creek to the west.

4.7 Project Construction

Construction activities for Phases I and II would last approximately 22-25 months. While a contractor has not yet been selected for construction activities, the average construction workforce is estimated to be 52 with a peak estimated to be 100 for each phase.

Construction of each generation yard and placement of the generators is expected to take six months and would be within the overall construction schedule. Construction personnel are estimated to range from 10 to 15 workers per generation yard including one crane operator. These construction personnel numbers are included in the overall construction workforce estimate.

Roughly 21,000 cubic yards of fill would be imported to the site to raise the base elevation by approximately three feet. Phase II would require 13,000 cubic yards of fill and this work would be completed in Phase II.

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

Since the MCDC would be constructed in phases, laydown areas are anticipated to be on-site.

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.

The project proposes to construct seven storm water treatment areas totaling approximately 16,000 square feet. The biotreatment areas would direct storm water via curb slots adjacent to the treatment areas. All treatment areas would drain into the public storm drain line in Agnew Road.

Construction of the MCBGF would take place in two phases. Each phase represents a generation yard that would be constructed to serve each of the two MCDC buildings. Since the site preparation activities for the MCDC would 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 would 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 would be assembled offsite and delivered to site by truck. Each generator would be placed within its respective generation yard by a crane.

4.8 Facility Operation

The backup generators would be run for short periods for testing and maintenance purposes and otherwise would 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). Oppidan proposes to limit operation to one engine at a time for routine testing activities, which would be conducted in accordance with manufacturer's recommendations. The applicant does not intend to operate the generators for more than 12 hours each annually (Mission College 2020a, TN# 231960, page 9).

4.9 Project Design Measures

The applicant has incorporated design measures into the project to avoid environmental impacts. Since these measures address specific technical areas, they are listed and identified as *applicant proposed measures* in the technical sections that follow this Project Description section, along with a discussion of any additional measures identified by CEC staff, and agreed to by the applicant, to mitigate impacts to less-than-significant levels. The latter are identified as *required mitigation measures*.

4.10 References

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2019b **-** Application for Small Power Plant Exemption: Mission College Data Center, Appendices A-C, dated November 2019. (TN 230844-47). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020a - Response to CEC staff data request set 1 (1-59), Mission College Backup Generating Facility (19-SPPE-05), February 2020 (TN 231960 and

232047). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020b - Response to CEC staff data request set 2 (60-63), Mission College Backup Generating Facility (19-SPPE-05), February 27, 2020 (TN 232246). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Section 5

Environmental Setting and Environmental Impacts

5. Environmental Setting and Environmental Impacts

5.1 Aesthetics

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to aesthetics.

AESTHETICS Except as provided in Public Resources Code Section 21099[1], would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☒	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

5.1.1 Setting

The proposed project is to be built on relatively flat land in a highly developed urban area within the City of Santa Clara, California. California's Great America and Levi's Stadium are approximately a quarter-mile and three-fourths of a mile to the north, respectively. San Tomas Aquino Creek is to the west and West Valley Mission College three-quarters of a mile farther. Agnew Park is approximately a half-mile to the east, the Guadalupe River a mile and half farther. U.S. Highway 101 is to the south a half-mile and Norman Y. Mineta Jose San International Airport a little less than two miles to the southeast. Light industrial, office, and research and development complexes and buildings complete the area.

The 15.78-acre project site currently has a two-story 358,000 square foot office/Research & Development (R&D) building and paved parking lot. Trees and ornamental landscaping

1 Public Resources Code section 21099, in general, asks is the proposed project an "employment center project" on an "infill site" within a "transit priority area" as defined in this section. Public Resources Code section 21099 (7)(d)(1) states, "Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment."

are throughout the parking lot (landscaped islands) and along the property boundary. The R&D building is currently being demolished under a city-issued demolition permit.

The project includes two data center buildings and supporting facilities. One building would be three-stories and approximately 279,840 square feet. The second building would be three-stories and 210,160 square feet. The project also includes 45 emergency diesel-fired generators (24 and 21 generators per building), a 99-megavolt substation, paved parking, and landscaping. Refer to the **Section 4.0 Project Description** for details regarding the project.

Regulatory Background

Federal

No federal regulations related to aesthetics apply to the project.

State

California Scenic Highway Program. The California Scenic Highway Program is a provision of the Streets and Highways Code established by the Legislature in 1963 to preserve and enhance the natural beauty of California. The Scenic Highway Program includes highways that are eligible for designation as scenic highways or designated as such. A city or county may propose highways with outstanding scenic elements to the list of eligible highways; however, state legislation is required for a highway to be eligible for designation as a scenic highway. The status of a state scenic highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives the designation from Caltrans. Review of the California Scenic Highway Mapping System shows no designated state scenic highway near the project.

Local

City of Santa Clara General Plan. The City of Santa Clara 2010–2035 General Plan (Santa Clara General Plan) adopted November 16, 2010; General Plan Map 2018 shows the project site designated Low Intensity Office/Research and Development. "This classification 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 is typically located in areas that provide a transition between light industrial and higher-intensity office and R&D uses. 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 is 1.00." (Santa Clara 2010)

City of Santa Clara Zoning Code. The Santa Clara Zoning Code establishes zoning districts applied to individual properties consistent with the General Plan land use designations. For each of the zoning districts, the Code identifies land uses permitted,

conditionally permitted, and not permitted. It also establishes standards such as minimum lot size, maximum building height, and the minimum distance buildings are set back from the street. Provisions for parking, landscaping, lighting, and other rules that guide the development of projects are also included.

The Santa Clara Land Use Zoning map shows the project site within the Light Industrial (ML) zoning district. "This district is intended to provide an optimum general industrial environment, and it is intended to accommodate industries operating substantially within an enclosed building. Such permitted uses shall not be objectionable or detrimental to adjacent properties because of signing, noise, smoke, odor, dust, noxious gases, vibrations, glare, heat, fire hazards, or industrial wastes emanating from the property." (Santa Clara 2019a, §18.48.020)

The following zoning code requirements that have some relation to scenic quality were reviewed. They are discussed in subsection 5.1.3 Environmental Impacts and Mitigation Measures under question "c".

- The maximum building height is 70 feet. (Santa Clara 2019a, §18.48.070)
- The following yard and area shall be permanently maintained as open landscaped areas containing ground cover, trees, and shrubs (Santa Clara 2019a, §18.48.120):
  (a) Front Yards and Street Side Yards. A landscaped berm or planning division-approved equivalent, not less than thirty (30) inches in height, shall be provided between the required street setback area and any open area used for parking, storage, and the like, except when the open area is necessary for driveways and walkways.
  (b) A minimum area equal to at least ten percent of the required parking area to be evenly distributed throughout the parking area and adjacent to buildings.
  (c) An alternative proposal, equal to or exceeding the open landscaped area provisions provided herein, may be used subject to approval by the architectural committee in accordance with the provisions of Chapter 18.76 SCCC.
- Additional development standards (Santa Clara 2019a, §18.48.140) are:
  (a) Fencing. At the time of new construction or reconstruction of a building on property, a solid fence of masonry six feet high shall be installed and thereafter permanently maintained by the owner of property in this zoning district on all common property lines with residentially zoned property or with property designated as residential in the general plan.

  Fencing shall not exceed three feet in height in required frontage landscaping.

  Outdoor storage areas shall be screened from the street by a minimum six-foot-high solid fence located behind required frontage landscaping.
  (b) Landscaped Buffer. A planter, landscaped in screening shrubs and trees, is required and shall be permanently maintained adjacent to the fencing and property

lines abutting a residentially zoned property or property designated as residential in the general plan. Each planter area shall be surrounded with a six-inch raised concrete curbing or planning division-approved equivalent. The minimum width of the planter shall be five feet. An irrigation system shall be installed and permanently maintained in working order in each separate planter area.

(c) Lighting. Lighting, if provided, shall reflect away from residential areas and public streets.

(d) Trash Disposal. Each property shall provide adequate and accessible trash disposal areas. Said disposal shall be screened from public view by a masonry enclosure, with solid wood gates, at least six feet in height.

(e) Outdoor Storage and Exposed Mechanical Equipment. Subject to the requirements above listed, outdoor storage and exposed mechanical equipment shall not exceed six feet in height within the first six feet immediately adjacent to the front or street side yard setback line or any interior side or rear lot line. Beyond this point, storage may extend to a maximum height of ten feet. Height of mechanical equipment and any accompanying screening shall be subject to architectural committee approval.

Architectural Review. The project's buildings and site improvements would be subject to the City of Santa Clara's architectural review (Santa Clara 2019a, Chapter 18.76). Architectural review is to "encourage the orderly and harmonious appearance of structures and property; maintain the public health, safety and welfare; maintain the property and improvement values, and to encourage the physical development of the City as intended by the general plan..." (Santa Clara 2019a, §18.76.010).

"The Architectural Review process is the responsibility of the Architectural Committee or Zoning Administrator, as designated.... The Committee reviews plans and drawings submitted for architectural review for design, aesthetic considerations, and consistency with zoning standards, generally prior to submittal for Building Permits. The Architectural Committee may require the applicant or owner of any such proposed development to modify buildings, parking areas, landscaping, signs, and other facilities and improvements as conditions of approval. No permit shall be issued, and no structure, building, or sign shall be constructed or used in any case until such plans and drawings have been approved by the Architectural Committee." (Santa Clara 1986)

5.1.2 Applicant Proposed Measures

None.

5.1.3 Environmental Impacts and Mitigation Measures

The California Environmental Quality Act (CEQA) Guidelines define a *significant effect on the environment* to mean "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." [Emphasis added] (CCR, section 15382)

The CEQA Guidelines Appendix G Environmental Checklist Form, I. Aesthetics (CCR 2018) was used to assess the proposed project's potential environmental effect in the existing *landscape*.[2] The project's aesthetic effect is discussed below.

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

Neither CEQA nor the CEQA Guidelines provide a clear-cut definition of what constitutes a scenic vista. Lead agencies may look to local planning thresholds for guidance when defining the visual impact standard for the purposes of CEQA.[3] A general plan, specific plan, zoning code or other planning document may provide guidance.

Construction, Operation and Maintenance

Less Than Significant Impact. The Santa Clara General Plan does not identify a distinct scenic vista or a specific related policy.

In addition, staff uses as the definition for a scenic vista "a distant view of high pictorial quality perceived through and along a corridor or opening." The California Energy Commission in its Commission Decision (certification) for a number of thermal power plant projects used this definition.[4] The data center would be on a relatively unenclosed plain—the Santa Clara Valley floor. Review of site photographs, and aerial and street view imagery using Google Earth Pro (build date March 5, 2019) concluded the project is not located within a scenic vista as defined. Therefore, construction, operation and maintenance of the project would not have a substantial adverse effect on a scenic vista. The impact would be less than significant.

Required Mitigation Measures: None.

2 For the purposes of this section, a *landscape* is defined as, "The outdoor environment, natural or built, which can be directly perceived by a person visiting and using that environment. A scene is the subset of a landscape which is viewed from one location (vantage point) looking in one direction." (Hull and Revell 1989) "The term landscape clearly focuses upon the visual properties or characteristics of the environment, these include natural and man-made elements and physical and biological resources which could be identified visually; thus non-visual biological functions, cultural/historical values, wildlife and endangered species, wilderness value, opportunities for recreation activities and a large array of tastes, smells and feelings are not included." (Daniel and Vining 1983)

3 Mira Mar Mobile Community v. City of Oceanside (2004) 119 Cal. App. 4th 477.

4 California Energy Commission Final Decision for GWF Tracy Combined Cycle Power Plant Project Docket Number 08-AFC-7, Visual Resources, p. 321; California Energy Commission Decision for Mariposa Energy Project Docket Number 09-AFC-3, Visual Resources, p. 5; California Energy Commission Decision for Blythe Solar Power Project Docket Number 09-AFC-6, Visual Resources, p. 514; California Energy Commission Decision for Genesis Solar Energy Project Docket Number 09-AFC-8, Visual Resources, p. 7-8; California Energy Commission Decision for Pio Pico Energy Center Docket Number 11-AFC-01, Visual Resources, p. 8.5-4.

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

Neither CEQA nor the CEQA Guidelines provide a clear-cut definition of what constitutes a scenic resource. A scenic resource may be explained in general as a widely recognized natural or man-made feature tangible in the landscape (e.g., a scenic resource designated in an adopted federal, state, or local government document, plan, or regulation, a landmark, or a cultural resource [historic values however differ from aesthetic or scenic values]). This analysis evaluated if the project would substantially damage—eliminate or obstruct—the *public view*[5] of a scenic resource, and if the project is situated so that it changes the visual aspect of the scenic resource by being different or in sharp contrast.

Construction, Operation and Maintenance

Less Than Significant Impact. Review of the Santa Clara General Plan found no designated scenic resource on the site or in the vicinity. The Santa Clara General Plan Environmental Impact Report (EIR) identified the Santa Cruz Mountains and the Diablo range of the California Coast Ranges, San Tomas Aquino Creek, and the Guadalupe River as "dominant visual resources" (Santa Clara 2011).

A few comments about the EIR identified dominant visual resources. In a visual impact assessment, areas beyond the foreground-middleground zone from a viewpoint, but usually less than 15 miles away are in the background zone. Areas not seen as foreground-middleground or background are in the seldom-seen zone. The seldom-seen zone is viewed in less detail by the observer; most impacts blend with the landscape because of distance. (BLM 1986) Review of Google Earth Pro aerial and street view imagery concluded the Santa Cruz Mountains and Diablo range are in the seldom-seen zone from the project site.

San Tomas Aquino Creek borders the project site to the west. A view of the creek from the project would be restricted to employees on the data center property; not a public view. A data center employee working on the 15-acre privately owned site would have a confined and obstructed view of the creek.

A paved city owned and maintained public trail used for walking, running, and bicycling is along the west levee of the creek. The project would not block the public view of the creek from the trail. The data center property borders the east levee. Along the top of the east levee is a creek maintenance road that is fenced and gated preventing public access.

5 Public view is the visible area from a location where the public has a legal and physical right of access to real property (e.g., city sidewalk, public park, town square, state highway).

The public trail follows the creek about five miles. Attractions a stone's throw from the trail include California's Great America, Levi's Stadium, and the Santa Clara Convention Center.

The Guadalupe River is a little less than a mile to the east of the project site. The public view of the river from the project is not visible due to topography, and aboveground buildings, structures, earthwork, trees, and vegetation. The project would not block or eliminate the public view of the river.

The construction, operation and maintenance of the project would not substantially damage a scenic resource. The impact would be less than significant.

Required Mitigation Measures: None.

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Construction, Operation and Maintenance

Less Than Significant Impact. The proposed project is within an urbanized area. Public Resources Code section 21071 defines an *urbanized area*.[6] Based on information from the U.S. Census Bureau, the City of Santa Clara 2018-population estimate was 128,488 (US Census 2018) greater than 100,000 constituting an urbanized area. Consequently, the project was reviewed for conformance with zoning and other regulations governing scenic quality.

The Light Industrial zoning district is intended to provide an optimum general industrial environment, and it is intended to accommodate industries operating substantially within an enclosed building. Permitted uses shall not be objectionable or detrimental to adjacent properties because of signing, noise, smoke, odor, dust, noxious gases, vibrations, glare, heat, fire hazards, or industrial wastes emanating from the property. (Santa Clara 2019a, §18.48.020)

The project would have 45 diesel-fired generators to provide backup generation in case of an interruption in electrical supply from Silicon Valley Power. The CAT 3516C Diesel Generator is to be used on the site, also the CAT Standby 600 ekW 750 kVA. The CAT 3516C Diesel Generator performance cut sheet prepared by the vendor (Caterpillar Inc.) shows its exhaust stack gas temperatures at standby is 915.2

6 An *urbanized area* includes "(a) An incorporated city that meets either of the following criteria: (1) Has a population of at least 100,000 persons. (2) Has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons." (Public Resources Code section 21071)

degrees, mission critical 915.2 degrees, prime 880.4 degrees, and continuous 866.5 degrees. The cut sheet for the CAT Standby 600 shows its exhaust stack gas temperature is 994.3 degrees. (Mission College 2019b, Air Quality Impact Assessment) These extremely high temperatures evaporate (eliminate) saturated moisture rising from the exhaust stack that could condense in the atmosphere becoming a publicly visible water vapor plume (visible plume). Therefore, operation of the generators would not result in visible plumes that would be objectionable or detrimental to adjacent properties and the project would not conflict with intended uses of the Light Industrial zone.

- Building height limits. The maximum building height is 70 feet. (Santa Clara 2019a, §18.48.070)

A few purposes of a height limit include to preserve a scenic vista, protect the public view of a scenic resource (e.g., architectural structure, a landmark, natural feature), and to maintain the character of a site and surrounding area (e.g., residential or commercial area). As previously discussed, review of aerial and street imagery show the project site is not located within a scenic vista, and the project would not block the public view of a scenic resource.

For zoning code conformance purposes, the applicant is currently working to obtain a minor modification from the City's Zoning Administrator. The Zoning Administrator has the authority to grant a minor modification of the height requirement that does not exceed 25 percent, further exceedance would require granting of a variance by the Planning Commission (Santa Clara 2019a, § 18.90.020). The data center buildings would have a typical height of 87.8 feet from adjacent grade to the top of the parapet. The proposed building height would be a 25.4 percent exceedance, which is above the 25 percent limit the Zoning Administrator can grant as a minor modification to the regulation. The City is requesting the applicant to lower the building height to no more than 87.5 feet, which would match the 25 percent maximum height increase specified in the Zoning Code (CEC 2020). The City expects that the applicant will modify the building plan elevations to achieve compliance with the 25 percent limit rather than having to request a variance from the regulation, which would require Planning Commission approval. Thus, if the Zoning Administrator grants the minor modification to the regulation to allow the 25 percent exceedance, the project would conform to the regulation limiting height of buildings in the ML zoning district, and no conflict would occur.

- Open landscape area. (Santa Clara 2019a, §18.48.120)

  (a) Front Yards and Street Side Yards. A landscaped berm or planning division-approved equivalent, not less than thirty (30) inches in height, shall be provided between the required street setback area and any open area used for parking, storage, and the like, except when the open area is necessary for driveways and walkways.

  (b) A minimum area equal to at least ten percent of the required parking area to be evenly distributed throughout the parking area and adjacent to buildings.

(c) An alternative proposal, equal to or exceeding the open landscaped area provisions provided herein, may be used subject to approval by the architectural committee in accordance with the provisions of Chapter 18.76 SCCC.

Landscaping consisting of trees, shrubs, and groundcover is to be installed throughout the site, including parallel to the main driveway on Mission College Boulevard, adjacent to buildings, and along the perimeter of the project site as shown on Landscape Plan Figure 2-4 (Mission College 2019a). A landscaped berm is not shown on the Partial Grading and Drainage Plan 3 dated January 21, 2020 (Mission College 2020a). The Landscape Plan and Stormwater Management Plan show bioretention areas.[7] During Phase I, roughly 21,000 cubic yards of fill is to be imported to the site to raise the base elevation by approximately three feet. Phase II would require 13,000 cubic yards of fill. The project site would be graded to direct storm water flows towards biotreatment areas located along the northern and southern boundaries (Agnew Road and Mission College Boulevard) of the site. When both phases are completed, the project site would have five bioretention areas. The project's drainage infrastructure includes an underground collection and conveyance system that will convey storm water from the bioretention areas to the storm drainage infrastructure within Agnew Road and Mission College Boulevard.

The pervious surface area (includes landscape areas) of the project site is about 262,338 square feet (Mission College 2020a). The Site Plan Figure 2-1 (Mission College 2019a) shows 152 parking spaces. Per the city's parking regulations, minimum inside dimensions for a standard 90-degree parking space are 9 feet x 18 feet. Where the parking space abuts a wall, the dimensions are 10 feet x 18 feet. A compact 90-degree parking space is 8 feet x 16 feet with a 20-foot aisle (Santa Clara Chapter 18.74). For this analysis, a standard 90-degree parking space size of 9 feet x 18 feet equals 162 square feet. Therefore, 162 square feet x 152 parking spaces = 24,624 square foot parking area. Per the city's code then, a minimum area of 10 percent or 2,462 square feet is required to be evenly distributed throughout the parking area and adjacent to buildings. This calculation excludes travel aisle, lanes, and carport. They are not included in the number of parking spaces requirement for a data center per Santa Clara 2019a, §18.74.020(d)(2). As previously noted, the applicant is providing 262,338 square feet of pervious surfacing. The project would conform to the zone district requirement.

- Additional development standards (Santa Clara 2019a, §18.48.140).

  (a) Fencing. At the time of new construction or reconstruction of a building on property, a solid fence of masonry six feet high shall be installed and thereafter

7 Bioretention areas function as soil and plant-based filtration measures that remove pollutants through a variety of physical, biological, and chemical treatment processes. These facilities normally consist of a ponding area, a mulch layer, plants, and biotreatment soil mix, underlain by drain rock and an underdrain.

permanently maintained by the owner of property in this zoning district on all common property lines with residentially zoned property or with property designated as residential in the general plan. (Underline added.)

Fencing shall not exceed three feet in height in required frontage landscaping.

(b) Outdoor storage areas shall be screened from the street by a minimum six-foot-high solid fence located behind required frontage landscaping. Landscaped Buffer. A planter, landscaped in screening shrubs and trees, is required and shall be permanently maintained adjacent to the fencing and property lines abutting a residentially zoned property or property designated as residential in the general plan. (Underline added) Each planter area shall be surrounded with a six-inch raised concrete curbing or planning division-approved equivalent. The minimum width of the planter shall be five feet. An irrigation system shall be installed and permanently maintained in working order in each separate planter area.

The project does not abut residentially zoned property or property designated as residential in the general plan. The project would conform to the zone district requirement.

(c) Trash Disposal. Each property shall provide adequate and accessible trash disposal areas. Said disposal shall be screened from public view by a masonry enclosure, with solid wood gates, at least six feet in height.

Site Plan Figure 2-1 shows the trash disposal areas enclosed, and screen walls at locations that would prevent the public from viewing the trash disposal areas. The project would conform to the zone district requirement.

(d) Outdoor Storage and Exposed Mechanical Equipment. Subject to the requirements above listed, outdoor storage and exposed mechanical equipment shall not exceed six feet in height within the first six feet immediately adjacent to the front or street side yard setback line or any interior side or rear lot line. Beyond this point, storage may extend to a maximum height of ten feet. Height of mechanical equipment and any accompanying screening shall be subject to architectural committee approval.

The Site Plan shows no mechanical equipment within the first six feet immediately adjacent to the front or street side yard setback, or interior side or rear lot line. The generator yards are to be screened with 30-foot tall concrete walls with architectural accents to coordinate with the building design. As stated in the "Regulatory Background" subsection above, the project's buildings and site improvements would be subject to the City of Santa Clara's architectural review (Santa Clara 2019a, Chapter 18.76). The project would conform to the zone district requirement.

Construction, operation and maintenance of the project would not conflict with applicable zoning and other regulations governing scenic quality. The impact would be less than significant.

Required Mitigation Measures: None.

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

A project may cause light trespass, sky glow, and glare affecting night and daytime views. Light trespass is "light falling where it is not wanted or needed" (e.g., spill light, obtrusive light) (IDA 2017). Sky glow is a result of light fixtures that emit a portion of their light directly upward into the sky where light scatters, creating an orange-yellow glow in the nighttime sky. Glare is "intense and blinding light that reduces visibility. A light within the field of vision that is brighter than the brightness to which the eyes are adapted" (IDA 2017). Reflectivity "...does not create its own light. It borrows light from another source. The borrowed light waves strike an object and 'bounce' from it. The reflectance of the object–how bright it shines–depends on the intensity of the light striking it and the materials from which it is made" (3M 2004).

Construction, Operation and Maintenance

Less Than Significant Impact. The project includes outdoor lighting for driveways, entrances, walkways, parking areas, and security purposes. The project site does not abut residential uses.

- "Lighting, if provided, shall reflect away from residential areas and public streets." (Santa Clara 2019a, §18.48.140)

Fully shielded light fixtures prevent light emission above the horizon into the sky, greatly reducing sky glow. The project design includes directional and shielded light fixtures to keep lighting onsite and to minimize brightness and glare from lights.

The construction laydown and staging areas may have nighttime lighting for security purposes. Outdoor construction-related lighting would be directed away from surrounding properties and the public right of way. Light fixtures would be hooded/shielded.

The project would conform to the zone district requirement.

The construction, operation and maintenance of the project would not create a new source of substantial outdoor light, glare and reflectivity adversely affecting day or nighttime views in the area. The impact would be less than significant.

Required Mitigation Measures: None.

5.1.4 References

3M 2004 - 3M Traffic Safety Systems Division, "Reflectivity," 2004. Accessed on May 8, 2017. Available online at: http://multimedia.3m.com/mws/media/295767O/reflectivity-flyer.pdf

BLM 1986 - Bureau of Land Management (BLM). U.S. Department of Interior Bureau of Land Management Manual H-8410-1 Visual Resources Inventory, January 17, 1986. Accessed on: September 6, 2019. Available online at: http://blmwyomingvisual.anl.gov/documents/

CEC 2020 - California Energy Commission. (TN 232527). Report of Conversation with Steve Le, City of Santa Clara Community Development Department. March 20, 2020. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Daniel and Vining 1983 - Terry C. Daniel and Joanne Vining, *Behaviour and the Natural Environment,* Plenum Press, New York, 1983, "Methodological Issues in the Assessment of Landscape Quality," pp. 39-83, and S. Amir and E. Gidalizon, "Expert-based method for the evaluation of visual absorption capacity of the landscape," *Journal of Environmental Management*, Vol. 30, No. 3, April 1990, pp. 251-263 cited by *The James Hutton Institute*, August 12, 2014, Accessed on: September 4, 2019. Available online at: http://www.macaulay.ac.uk/ccw/task-two/evaluate.html

Hull and Revell 1989 - R. Bruce Hull and Grant R.B. Revell, "Issues in sampling landscapes for visual quality assessments," Landscape and Urban Planning, Vol. 17, No. 4, August 1989, pp. 323-330 cited by The James Hutton Institute, August 12, 2014. Accessed on: September 4, 2019.Available online at: http://www.macaulay.ac.uk/ccw/task-two/evaluate.html

IDA 2017 - International Dark-Sky Association (IDA). Accessed on: September 4, 2019. Available online at: https://www.darksky.org/our-work/grassroots-advocacy/resources/glossary/

Mission College 2019a - Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2019b - Application for Small Power Plant Exemption: Mission College Data Center, Appendices A-C, dated November 2019. (TN 230844-47). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020a - Response to CEC staff data request set 1 (1-59), Mission College Backup Generating Facility (19-SPPE-05), February 2020 (TN 231960 and 232047). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Santa Clara 1986 - City of Santa Clara (Santa Clara). City of Santa Clara Architectural Committee Policies Community Design Guidelines. Adopted 1986. Available online at: http://santaclaraca.gov/home/showdocument?id=46963

Santa Clara 2010 - City of Santa Clara (Santa Clara). City of Santa Clara 2010–2035 General Plan. Adopted November 16, 2010. Accessed on: September 4, 2019.

Available online at: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan

Santa Clara 2011 - City of Santa Clara (Santa Clara). City of Santa Clara 2010-2035 General Plan Integrated Final Environmental Impact Report. January 2011. Accessed on: September 4, 2019. Available online at: http://santaclaraca.gov/home/showdocument?id=12900

Santa Clara 2019a - City of Santa Clara (Santa Clara). City of Santa Clara City Code. February 2019. Accessed on: September 4, 2019. Available online at: https://www.codepublishing.com/CA/SantaClara

US Census 2018 - United States Census Bureau (US Census). QuickFacts. Last updated: July 1, 2018. Available online at: https://www.census.gov/quickfacts/fact/table/santaclaracitycalifornia,US/-PST045218

5.2 Agriculture and Forestry Resources

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to agriculture and forestry resources.

AGRICULTURE AND FORESTRY RESOURCES In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. 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?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment 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?	☐	☐	☐	☒

Environmental checklist established by CEQA Guidelines, Appendix G.

5.2.1 Setting

Historical aerial photographs show agricultural fields surrounding the project site from 1939 through 1956 (Mission College 2019b, Phase I Environmental Site Assessment, Pages 1, 6, 7, and 15). Commercial properties were first constructed east of the site in

1968. The project site was in agricultural uses until the late 1970s. Development of the site began in 1979 with construction of the first of four contiguous building sections; construction of the last building section was completed in 1985. Since 1979, uses on the site have included multi-tenant warehouse, manufacturing, assembly and distribution, research and development, and telecommunications businesses. The applicant has obtained a demolition permit from the City of Santa Clara (City) to allow demolition and removal of the existing building and other structures from the project site.

Regulatory Background

Federal

No federal regulations relating to agriculture and forestry resources apply to the proposed project.

State

Farmland Mapping and Monitoring Program. The California Department of Conservation (CDOC) established the Farmland Mapping and Monitoring Program (FMMP) in 1982 to assess the location, quantity, and quality of agricultural lands and conversion of those lands to other uses. The FMMP identifies and maps agricultural lands as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. The maps also classify Urban and Built-up Land to indicate land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, landfills, sewage treatment, and water control structures.

Williamson Act. The California Land Conservation Act of 1965, or Williamson Act, is the principal method for encouraging the preservation of agricultural lands in California (Gov. Code, § 51200 et seq.). It enables local governments to enter into contracts with private landowners who agree to maintain specified parcels of land in agricultural or related open space use in exchange for tax benefits.

Local

City of Santa Clara General Plan and Zoning Ordinance. The project site is in an area designated Low-Intensity Office/Research and Development (R&D) by the *City of Santa Clara 2010–2035 General Plan*. "This designation is intended for campus-like office development that includes office and R&D, as well as medical facilities and free standing data centers…" (City of Santa Clara 2010). The project site is in the ML, Light Industrial zoning district; permitted uses include commercial storage and wholesale distribution warehouses; plants and facilities for assembly, compounding, manufacture, packaging, processing, repairing, or treatment of equipment, materials, merchandise, or products; and uses of a similar nature (City of Santa Clara 2019, § 18.48.030, subds. (b)(c)).

5.2.2 Applicant Proposed Measures

None.

5.2.3 Environmental Impacts and Mitigation Measures

a. Would the project 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?

Construction, Operation and Maintenance

No Impact. The project site is within the intensively developed and urbanized northwest portion of Santa Clara County. As shown on the *Santa Clara County Important Farmland Map 2016*, the project site is located in an extensive region classified as Urban and Built-up Land (CDOC 2018). No Farmland is located in the project area or the region surrounding the site. Therefore, the proposed project would not convert Farmland to a non-agricultural use. Construction, operation, and maintenance activities would cause no impact on Farmland.

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

Construction, Operation and Maintenance

No Impact. The project site is zoned ML, Light Industrial, which is a non-agricultural zoning district. CDOC agriculture maps show that the developed and urbanized region encompassing the project site, including most of the area within the City limits, is classified Urban and Built-up Land (CDOC 2018). No properties with this classification are in agricultural uses, and none would be subject to Williamson Act contracts. Therefore, construction, operation, and maintenance activities would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no environmental impact would occur.

c. Would the project 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))?

Construction, Operation and Maintenance

No Impact. The project site is in the ML, Light Industrial zoning district. Permitted uses include commercial storage and wholesale distribution warehouses; plants and facilities for assembly, compounding, manufacture, packaging, processing, repairing, or treatment of equipment, materials, merchandise, or products; and uses of a similar

nature (City of Santa Clara 2019, § 18.48.030, subds. (b)(c)). Development in the area near the site includes commercial, office, and residential uses. No land in the region is zoned for forest land, timberland, or timberland production; therefore, project construction, operation, and maintenance would cause no environmental impact on such lands or uses.

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

Construction, Operation and Maintenance

No Impact. The project site does not contain forest land and is not in a region where forest land is present; therefore, project construction, operation, and maintenance would cause no loss of forest land, and no environmental impact would occur.

e. Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

Construction, Operation and Maintenance

No Impact. Starting in 1979, the site has been developed with manufacturing, assembly, and distribution business uses, and the proposed project would be consistent with those types of uses. Project construction, operation, and maintenance would cause no changes in the existing environment that could cause conversion of Farmland to a non-agricultural use or forest land to a non-forest use. Therefore, no environmental impact would occur.

5.2.4 References

CDOC 2018 – California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. Santa Clara County Important Farmland 2016. Map published September 2018. Sacramento, CA. Accessed on February 19, 2020. Available online at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/SantaClara.aspx

City of Santa Clara 2010 – Community Development Department, Planning Division. *City of Santa Clara 2010–2035 General Plan*. Chapter 5 Goals and Policies. Section 5.2.2 Land Use Classifications and Diagram. Land Use Diagrams Phases I, II, and III. Accessed on February 19, 2020. Available online at: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan

City of Santa Clara 2019 – Santa Clara City Code. Current through Ordinance 2010, passed November 19, 2019. Accessed on February 19, 2020. Available online at:

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/zoning

Mission College 2019b – Application for Small Power Plant Exemption: Mission College Data Center, Appendices A-C, dated November 2019. (TN 230844-47). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

5.3 Air Quality

This section describes the environmental and regulatory setting and discusses impacts associated with construction,[1] readiness testing and maintenance, and the potential for emergency operation of the project with respect to air quality. It is important to note that intermittent and standby emitting sources, like those proposed in this project, could operate for emergency use, and such emergency operations would be infrequent and for unplanned circumstances, which are beyond the control of the project owner. Emergency operations and the impacts of air pollutants during emergencies are generally exempt from air district permitting. Emissions from emergency operation are not regular, expected, or easily quantifiable such that they cannot be analyzed with certainty.

AIR QUALITY Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

Background

The air quality evaluation below assesses the degree to which MCBGF and MCDC would potentially cause a significant impact according to the CEQA guidelines established by the State of California. The Bay Area Air Quality Management District (BAAQMD) is the local air district responsible for attainment and maintenance of the federal and state ambient air quality standards (AAQS) and associated program requirements at the project location. The analysis incorporates "thresholds of significance" from the May 2017 CEQA Air Quality Guidelines (BAAQMD 2017b) to determine the significance of the potential air quality emissions. The BAAQMD thresholds of significance are included in **Table 5.3-4**. Demolition and construction mass emissions are compared to these thresholds of

1 The office/R&D building and other existing improvements on the site are currently being demolished under a city-issued demolition permit. Demolition emissions are conservatively included with the construction emissions of the project.

significance values in **Table 5.3-5**. Readiness testing and engine maintenance mass emissions are compared to the annual thresholds of significance values in **Table 5.3-6**.

The air quality evaluation addresses both emissions of criteria pollutants (which have health-based standards) and toxic air contaminants (which are identified as potentially harmful even at low levels and have no established safe levels or health-based ambient air quality standards). The analysis includes ambient air quality impact modeling for construction and demolition and readiness testing and maintenance for the proposed diesel-fueled engines to estimate the air quality impacts caused by the emissions. Demolition and construction impacts are shown in **Table 5.3-7** and readiness testing and engine maintenance impacts are shown in **Table 5.3-8**.

Criteria Pollutant Evaluation

The California Air Resources Board (ARB) and U.S. Environmental Protection Agency (U.S. EPA) have established ambient air quality standards (AAQS) for criteria pollutants. While both state and federal AAQS apply to every location in California, typically the state standards are lower (i.e., more stringent) than federal standards. Air monitoring stations, usually operated by local air districts or ARB, measure the ambient air to determine an area's attainment status. Depending on the pollutant, the time period over which these pollutants are measured varies from 1-hour, to 3-hours, to 8-hours, to 24-hours and to annual averages. Most criteria pollutants have ambient standards with more than one averaging time. Pollutant concentrations are expressed in terms of mass of pollution per unit volume of air, typically using micrograms for the mass portion of the expression and cubic meters of air for the volume, or "micrograms per cubic meter of air, expressed as "$\mu g/m^3$." The concentration can also be expressed as parts of pollution per million parts of air, or "ppm." **Table 5.3-1** below lists both the state and federal AAQS.

Some forms of air pollution are primary air pollutants, which are gases and particles directly emitted from stationary and mobile sources. Other forms of air pollution are secondary air pollutants that result from complex interactions between primary pollutants, background atmospheric constituents, and other secondary pollutants. Some pollutants can be a combination of both primary and secondary formation, such as PM2.5 (particulate matter with an aerodynamic diameter less than 2.5 micrometer [µm]). In this case, the primary pollutant component of PM2.5 is directly emitted, such as from the stack of diesel-fueled engines, and the secondary pollutant component of PM2.5 is formed in the air by transformation of nitrogen oxide (NOx) and sulfur oxide (SOx) gases into particles. In this case, the NOx and SOx emissions are precursors to the formation of the secondary aerosol pollutant.

Nitrogen oxide emissions are the sum of nitric oxide (NO) and nitrogen dioxide (NO_2). In the case of stack emissions from diesel-fueled engines, approximately 90 percent of the NOx is in the form of NO while the remainder is directly emitted NO_2. The ambient standards are expressly for NO_2, not NO. Once these gases exit the stack, chemical reactions in the region downwind of the facility, meteorological conditions and sunlight

interact to convert the NO into NO_2, ozone, and particulates. The ozone that exists in the ambient air is not directly emitted; it is formed in the air when the NO to NO_2 reaction occurs, followed by a set of complex reactions including interactions with volatile organic compounds (VOC). The BAAQMD uses the term Precursor Organic Compounds (POC) instead of VOC.

California is divided into 35 local air districts. Some are called "air quality management districts," while the remainder are called "air pollution control districts." ARB oversees activities within the BAAQMD and other local air districts. ARB develops guidance for these local districts, and both ARB and the local agency work together to develop rules and regulations in the district that are intended to reduce emissions to meet or maintain both the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS). Areas that meet the AAQS based upon air monitoring measurements made by either the local district or ARB are classified as "attainment areas," and areas that have monitoring data that exceed ambient air quality standards are classified as "nonattainment areas." As demonstrated in **Table 5.3-2,** an area can be classified as attainment for some pollutants and nonattainment for others. Even for the same pollutant, an area can be attainment for one averaging time and nonattainment for another.

Air districts adopt rules, regulations, and attainment and maintenance plans aimed at protecting public health and reducing emissions. Air districts incorporate these requirements into State Implementation Plans (SIP) for areas that do not meet federal NAAQS. SIPs include components developed by local districts in consultation with ARB, which must approve them before sending them to the U.S. EPA for federal approval. Once a SIP is approved by the U.S. EPA, the requirements in the SIP become federally enforceable.

For those facilities subject to CEC jurisdiction, the project is evaluated to determine whether it would be able to comply with all applicable local, state, and federal requirements. If the Energy Commission is issuing the license, this analysis occurs during the review of the Application for Certification (AFC), with the local air district participating in this process by preparing a Determination of Compliance (DOC). However, since MCDC is going through an exemption to the AFC process and is not an AFC, the DOC is not prepared. If the proposed project is 50 MW to 100 MW in net electricity production, the Energy Commission conducts a CEQA review before allowing the project to be exempt from Energy Commission's AFC licensing. The local air district would then implement its permit review process and if the proposed facility meets local air district requirements, an operating permit would be issued by the local district.

An AQ analysis focuses upon whether the proposed project would meet local, state and federal requirements. The analysis typically follows the local district's New Source Review (NSR) program which includes several steps: (1) quantifying emissions to determine if the project requires a federal operating permit (Title V) or prevention of significant deterioration (PSD) evaluation; (2) determining if a project complies with all emissions

limits established for this class of facility; (3) reviewing if the project would trigger Best Available Control Technology (BACT) requirements; and (4) determining if the project would trigger offset requirements.

PSD evaluations are required for facilities that are considered major sources of pollutants that are in attainment in the area where the facility is proposed to be located. A project is considered a major source depending on the project's mass emission increase. PSD requirements are designed to ensure the project would not cause an attainment area to backslide to non-attainment.

Offset requirements are developed by the local air district during their evaluation of a permit application for a project.

Non-Criteria Pollutant Evaluation

Non-criteria pollutants that are typically evaluated are airborne toxic pollutants identified to have potential harmful human health impacts. Evaluations assess the potential risks from toxic air contaminants (TACs) and hazardous air pollutants (HAPs). TACs include toxic air pollutants identified by the state and HAPs include toxic air pollutants identified at the federally level. Most toxic air pollutants do not have AAQS; however, AAQS have been established for a few pollutants.

TACs are separated into "carcinogens" and "non-carcinogens" based on the nature of the physiological effects associated with exposure. There are two types of thresholds for TACs. Cancer risk is expressed as excess cancers per 1 million exposed individuals, typically over a lifetime of exposure. Acute and chronic exposure to non-carcinogens is expressed as a hazard index (HI), which is the ratio of expected exposure levels to acceptable reference exposure levels (REL) for each of the TACs associated with acute and chronic health effects.

The impact evaluation below focuses on the project's incremental impact due to diesel particulate matter (DPM) exhaust from construction equipment and from the stacks of the diesel-fueled backup engines. That is because DPM is the primary TAC of concern, as explained below. **Table 5.3-9** is the results of construction health risk assessment (HRA) at the maximally exposed individual resident (MEIR), the maximally exposed individual worker (MEIW), the Maximally Exposed Individual Sensitive Receptor (MEISR) and the point of maximum impact (PMI). If risks to these receptors are below significance thresholds, then impacts to other receptors would also be below significance thresholds. **Table 5.3-10** shows the results of HRA for readiness testing and operation for these same receptors. The HRA of readiness testing and operation follows the same logic as construction HRA.

Odor Impact Evaluation

Aside from criteria air pollutants and TACs, impacts may arise from other emissions, notably related to odor. These are listed in **Table 5.3-14**.

5.3.1 Setting

Criteria Pollutants

The United States Environmental Protection Agency (US EPA) and the California Air Resources Board (ARB) have established ambient air quality standards for several pollutants based on their adverse health effects. The US EPA has set National Ambient Air Quality Standards (NAAQS) for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than or equal to 10 microns (PM10), fine particulate matter less than or equal to 2.5 microns (PM2.5), sulfur dioxide (SO_2), and lead (Pb). These pollutants are commonly referred to as "criteria pollutants." Primary standards were set to protect public health; secondary standards were set to protect public welfare against visibility impairment, damage to animals, crops, vegetation, and buildings. In addition, ARB has established California Ambient Air Quality Standards (CAAQS) for these pollutants, as well as for sulfate (SO_4), visibility reducing particles, hydrogen sulfide (H_2S), and vinyl chloride. California standards are generally stricter than national standards. The standards currently in effect in California and relevant to the project are shown in **Table 5.3-1**.

Attainment Status and Air Quality Plans

The US EPA, ARB, and the local air districts classify an area as attainment, unclassified, or nonattainment. The classification depends on whether the monitored ambient air quality data show compliance, insufficient data are available, or non-compliance with the ambient air quality standards, respectively. The proposed project would be located in Santa Clara County in the San Francisco Bay Area Air Basin (SFBAAB), under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). **Table 5.3-2** summarizes attainment status for the relevant criteria pollutants in the SFBAAB with both the federal and state standards.

TABLE 5.3-1 NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards [a]	National Standards [b]	
			Primary	Secondary
O_3	1-hour	0.09 ppm (180 µg/m^3)	—	Same as Primary Standard
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	
PM10	24-hour	50 µg/m^3	150 µg/m^3	Same as Primary Standard
	Annual Mean	20 µg/m^3	—	
PM2.5	24-hour	—	35 µg/m^3	Same as Primary Standard
	Annual Mean	12 µg/m^3	12 µg/m^3	15 µg/m^3
CO	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
NO_2	1-hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3) [c]	—
	Annual Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
SO_2 [d]	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
	3-hour	—	—	0.5 ppm (1,300 µg/m^3)
	24-hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas) [d]	—
	Annual Mean	—	0.030 ppm (for certain areas) [d]	—

Notes: ppm=parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; "—" = no standard

[a] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded.

[b] National standards (other than O_3, PM, NO_2 [see note c below], and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

[c] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb.

[d] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Source: ARB 201

TABLE 5.3-2 ATTAINMENT STATUS FOR SFBAAB

Pollutant	Averaging Time	State Designation	Federal Designation
O_3	1-hour	Nonattainment	—
	8-hour	Nonattainment	Nonattainment
PM10	24-hour	Nonattainment	Unclassified
	Annual	Nonattainment	—
PM2.5	24-hour	—	Nonattainment [a]
	Annual	Nonattainment	Unclassifiable/attainment [b]
CO	1-hour	Attainment	Attainment
	8-hour	Attainment	Attainment
NO_2	1-hour	Attainment	Unclassifiable/Attainment
	Annual	Attainment	Attainment
SO_2	1-hour	Attainment	Attainment/Unclassifiable [c]
	24-hour	Attainment	— [d]
	Annual	—	— [d]

Notes:
[a] On January 9, 2013, US EPA issued a final rule to determine that the Bay Area attains the 24-hour PM2.5 national standard (US EPA 2013). This US EPA rule suspends key state implementation plan (SIP) requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this US EPA action, the Bay Area will continue to be designated as "nonattainment" for the national 24-hour PM2.5 standard until such time as the BAAQMD submits a "redesignation request" and a "maintenance plan" to US EPA, and US EPA approves the proposed redesignation.
[b] In December 2012, US EPA strengthened the annual PM 2.5 NAAQS from 15.0 to 12.0 $\mu g/m^3$. In December 2014, US EPA issued final area designations for the 2012 primary annual PM 2.5 NAAQS (US EPA 2014). Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.
[c] On January 9, 2018, US EPA issued a final rule to establish the initial air quality designations for certain areas in the US for the 2010 SO_2 primary NAAQS (US EPA 2018). This final rule designated the SFBAAB as attainment/unclassifiable for the 2010 SO_2 primary NAAQS.
[d] See Noted under **Table 5.3-1**.
Sources: ARB 2019a, BAAQMD 2019a, US EPA 2011c, US EPA 2013, US EPA 2014, US EPA 2018

Overall air quality in the SFBAAB is better than most other developed areas in California, including the South Coast, San Joaquin Valley, and Sacramento regions. This is due to a more favorable climate, with cooler temperatures and regional air flow patterns that transports pollutants emitted in the air basin out of the air basin. Although air quality improvements have occurred, violations and exceedances of the state ozone and PM standards continue to persist in the SFBAAB, and still pose challenges to state and local air pollution control agencies (ARB 2013). The project area's proximity to both the Pacific Ocean and the San Francisco Bay has a moderating influence on the climate. This portion of the Santa Clara Valley is bounded by the San Francisco Bay to the north, the Santa Cruz Mountains to the southwest, and the Diablo Range to the east. The surrounding terrain greatly influences winds in the valley, resulting in a prevailing wind that flows along the valley's northwest-southeast axis.

Pollutants in the air can cause health problems, especially for children, the elderly, and people with heart or lung problems. Healthy adults may experience symptoms during

periods of intense exercise. Pollutants can also cause damage to vegetation, animals, and property.

Existing Ambient Air Quality

The nearest background ambient air quality monitoring station to the project is the San Jose – Jackson Street station, which is about 5 miles southeast of the project site. **Table 5.3-3** presents the air quality monitoring data from the San Jose – Jackson Street monitoring station from 2013 to 2018, the most recent years for which data are available.

Data in this table that are marked in **bold** indicate that the most-stringent current standard was exceeded during that period.

The maximum concentration values listed above in **Table 5.3-3** have not been screened to remove values that are designated as exceptional events. Violations that are the result of exceptional events such as wildfires are normally excluded from consideration as AAQS violations. Exceptional events undoubtedly affected many of the maximum concentration values listed above for 2017 and 2018, most of which occurred from September to mid-November during a period of extensive California-wide wildfire activity. The ozone[2] and PM in 2017 and 2018 strongly illustrate the effect of events like the extensive northern California wild-land fires. Even though they were hundreds of miles from the monitoring stations, the blanket of smoke and adverse air quality most likely affected air monitoring stations in the urban areas surrounding the project.

Health Effects of Criteria Pollutants

Below are descriptions of the health effects of criteria pollutants that are a concern in the regional study area. The California Health and Safety Code Section 39606 requires the Air Resources Board (ARB) to adopt ambient air quality standards at levels that adequately protect the health of the public, including infants and children, with an adequate margin of safety. Ambient air quality standards are the legal definition of clean air (ARB 2007).

2 Wildfires also emit substantial amounts of volatile and semi-volatile organic materials and nitrogen oxides that form ozone and organic particulate matter (NOAA 2019).

Table 5.3-3 AMBIENT AIR QUALITY MONITORING DATA

Pollutant	Averaging Time	2013	2014	2015	2016	2017	2018
O_3 (ppm)	1-hour	**0.093**	0.089	**0.094**	0.087	**0.121**	0.078
	8-hour	**0.079**	0.066	**0.081**	0.066	**0.098**	0.061
PM10 (µg/m^3)	24-hour	**58.1**	**54.7**	**58**	41	**69.8**	**155.8**
	Annual	**22.2**	20	**21.9**	18.3	**21.3**	**23.1**
PM2.5 (µg/m^3)	24-hour (98th percentile)	**35**	28	30	24	27	**42**
	Annual	**12.4**	9.3	10.2	8.9	9.3	10.2
NO_2 (ppb)	1-hour (maximum)	59	58	49	51	68	86
	1-hour (98th percentile)	52	55	44	42	50	59
	Annual	15.18	13.07	12.81	11.26	12.24	12
CO (ppm)	1-hour	3	2.4	2.4	1.9	2.1	2.5
	8-hour	2.5	1.9	1.8	1.4	1.8	2.1
SO_2 (ppb)	1-hour (maximum)	2.5	3	3.1	1.8	3.6	6.9
	1-hour (99th percentile)	2	2	2	2	3	na
	24-hour	1.4	0.9	1.1	0.8	1.1	1.1

Notes:
Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.
na – Not available.
Sources: ARB 2019b, US EPA 2019, BAAQMD 2019b

Ozone. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NOx), including nitrogen dioxide (NO_2). ROG and NOx are known as precursor compounds for O_3. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight.

Ozone can cause the muscles in the airways to constrict, trapping air in the alveoli, potentially leading to wheezing and shortness of breath. Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema, and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when the symptoms have disappeared; and cause chronic obstructive pulmonary disease. Long-term exposure to ozone is linked to aggravation of

asthma, and is likely to be one of many causes of asthma development. Long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children. Inhalation of ozone causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms, and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath.

People most at risk for adverse health effects from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers. Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure. Studies show that children are no more or less likely to suffer harmful effects than adults; however, children and teens may be more susceptible to ozone and other pollutants because they spend nearly twice as much time outdoors and engaged in vigorous activities compared to adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults and are less likely than adults to notice their own symptoms and avoid harmful exposures.

Particulate Matter. PM10 and PM2.5 represent size fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility.

Nitrogen Dioxide. Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Such exposures over short periods (as represented by the 1-hour standards) can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 (as represented by the annual standards) may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO_2. NOx (NO_2 and NO – nitric oxide) reacts with other chemicals in air and sunlight to form both particulate matter and ozone.

Carbon Monoxide. CO is a pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Sulfur Dioxide. SO_2 is produced through combustion of sulfur or sulfur-containing fuels such as coal. SO_2 is also a precursor to the formation of atmospheric sulfate and particulate matter (PM10 and PM2.5) and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Lead. Lead has a range of adverse neurotoxin health effects and was predominately released into the atmosphere primarily via the combustion of leaded gasoline. The phase-out of leaded gasoline has resulted in decreasing levels of atmospheric lead.

Toxic Air Contaminants[3]

According to section 39655 of the California Health and Safety Code, a toxic air contaminant (TAC) is "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." TACs, also referred to as hazardous air pollutants (HAPs) or air toxics, are different from criteria air pollutants such as ground-level ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. Criteria air pollutants are regulated using national and state Ambient Air Quality Standards as noted above. However, there are no ambient standards for most TACs[4] so site-specific health risk assessments (HRAs) are conducted to evaluate whether risks of exposure to TACs create an adverse impact. Specific TACs have known acute, chronic, and cancer health impacts. TACs that have been identified by ARB are listed at Title 17, California Code of Regulations, sections 93000 and 93001. The nearly 200 regulated TACs include asbestos, organic, and inorganic chemical compounds and compound categories, diesel exhaust, and certain metals. The requirements of the Air Toxic "Hot Spots" Information and Assessment Act apply to facilities that emit these listed TACs above regulated threshold quantities.

Health Effects of TACs

The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs could cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis or genetic damage; or short-term effects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches (BAAQMD 2017b, page 5-1). Numerous other health effects also have

3 According to section 39655 of the California Health and Safety Code, a toxic air contaminant (TAC) is "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." In addition, substances which have been listed as federal hazardous air pollutants (HAPs) pursuant to section 7412 of Title 42 of the United States Code are TACs under the state's air toxics program pursuant to section 39657 (b) of the California Health and Safety Code. ARB formally made this identification on April 8, 1993 (Title 17, California Code of Regulations, section 93001) (OEHHA 2019).

4 Ambient air quality standards for TACs exist for lead (federal and state standards), hydrogen sulfide (state standard), and vinyl chloride (state standard).

been linked to exposure to TACs, including heart disease, Sudden Infant Death Syndrome, respiratory infections in children, lung cancer, and breast cancer (OEHHA 2015).

The primary on-site TAC emission sources for the MCBGF would be diesel engines, including engines in vehicles and equipment used during demolition/construction and stationary standby engines during readiness testing and maintenance. Diesel exhaust is a complex mixture of thousands of gases and fine particles and contains over 40 substances listed by the US EPA as hazardous air pollutants and by ARB as toxic air contaminants. The solid material in diesel exhaust is known as diesel particulate matter (DPM) (ARB 2019c).

Diesel particulate matter (DPM) has been the accepted surrogate for whole diesel exhaust since the late 1990's. ARB identified DPM as the surrogate compound for whole diesel exhaust in its Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant staff report in April 1998 (Appendix III, Part A, Exposure Assessment) (ARB 1998). DPM is primarily composed of aggregates of spherical carbon particles coated with organic and inorganic substances. Diesel exhaust deserves particular attention mainly because of its ability to induce serious noncancerous effects and its status as a likely human carcinogen. Diesel exhaust is also characterized by ARB as "particulate matter from diesel-fueled engines." The impacts from human exposure would include both short- and long-term health effects. Short-term effects can include increased coughing, labored breathing, chest tightness, wheezing, and eye and nasal irritation. Effects from long-term exposure can include increased coughing, chronic bronchitis, reductions in lung function, and inflammation of the lung. Epidemiological studies strongly suggest a causal relationship exists between occupational diesel exhaust exposure and lung cancer. Diesel exhaust is listed by the US EPA as "likely to be carcinogenic to humans" (US EPA 2003).

Sensitive Receptors

Sensitive receptors are defined as groups of individuals that may be more susceptible to health risks due to chemical exposure. Sensitive individuals, such as infants, the aged, and people with specific illnesses or diseases, are the subpopulations which are more sensitive to the effects of toxic substance exposure. Examples of sensitive receptors include residences, schools and school yards, parks and playgrounds, daycare centers, nursing homes, and medical facilities. Residences could include houses, apartments, and senior living complexes. Medical facilities could include hospitals, convalescent homes, and health clinics. Playgrounds could be play areas associated with parks or community centers (BAAQMD 2017b, page 5-8). The potential sensitive receptor locations evaluated in the HRA for MCDC include:

- Residential dwellings
- Schools
- Daycare centers
- Hospitals

- Senior-care facilities

Sensitive Receptors Near the Project

BAAQMD recommends that any proposed project including the siting of a new TAC emissions source assess associated community risks and hazards impacts within 1,000 feet of the proposed project, and take into account both individual and nearby cumulative sources (that is, proposed project plus existing and foreseeable future projects). Cumulative sources represent the combined total risk values of each individual source within the 1,000-foot evaluation zone. A lead agency should enlarge the 1,000-foot radius on a case-by-case basis if an unusually large source or sources of risk or hazard emissions that may affect a proposed project is beyond the recommended radius (BAAQMD 2017b, Table 2-1, page 5-2, and page 5-3).

The project site is approximately 15.7 acres (Mission College 2019a, page 18). **Table 4.3-5** of the application lists the nearest sensitive receptors within two miles of the Project's property boundary (Mission College 2019a, page 57 and 58). The locations of the sensitive receptors are shown on **Figure 3-1** of Appendix A (Mission College 2019b, Air Quality Impact Assessment, page 3-12).

The nearest sensitive receptor is a residence located to the north of the site at a distance of approximately 292 ft. from the project site's fence line. There is also a sensitive receptor which is a health care facility (#1 in Table 3-5 of the application). It is located 0.13 miles (680 ft.) to the southwest of the project site's fence line. Another sensitive receptor is a school (#2 in Table 3-5 of the application). It is located 0.19 miles (998 ft.) to the northeast of the project's fence line. Please see **Figure 5.3-1** for a map of sensitive receptors near the project.

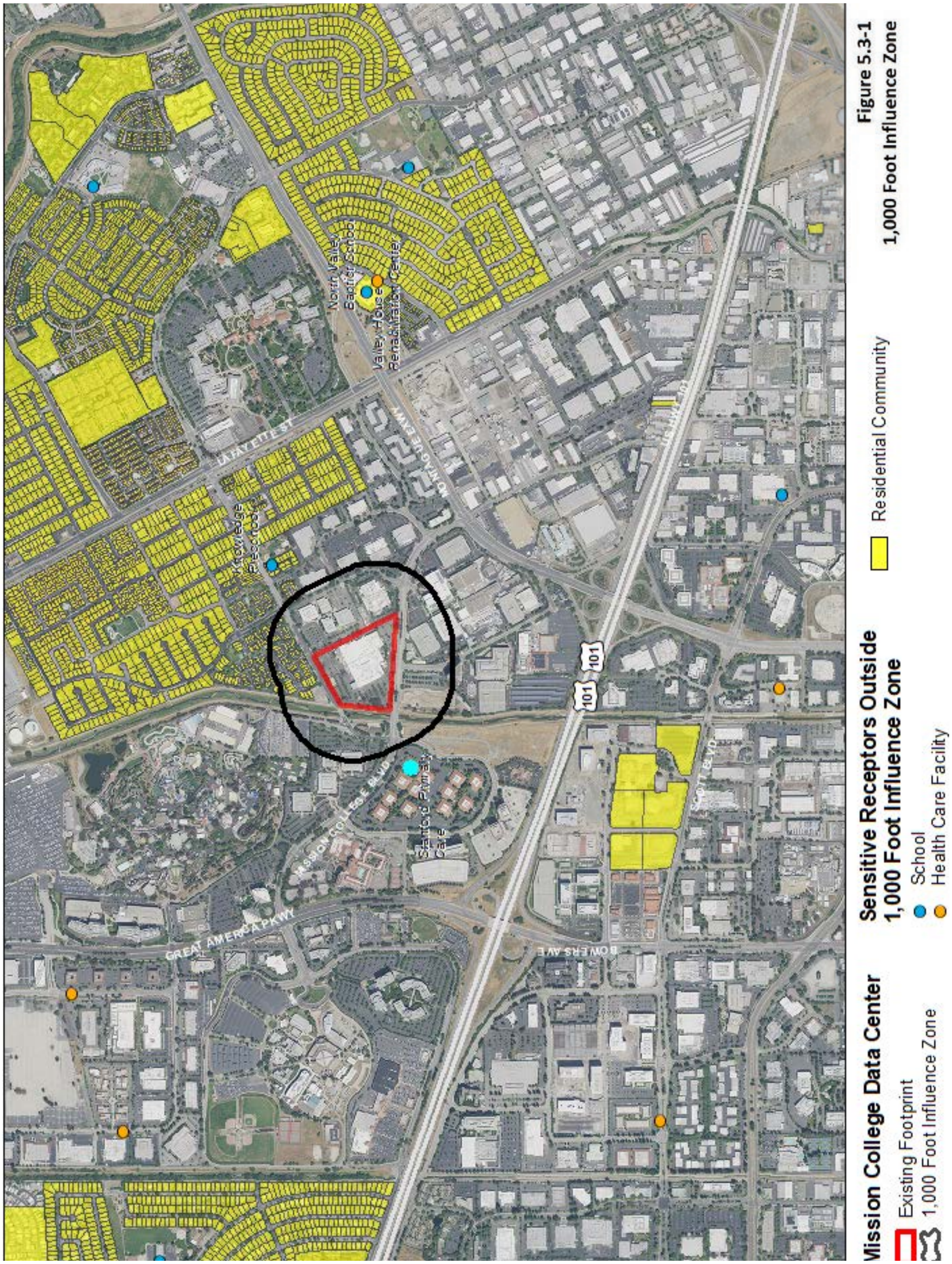


Figure 5.3-1
1,000 Foot Influence Zone
Mission College Data Center
Existing Footprint
1,000 Foot Influence Zone
Sensitive Receptors Outside 1,000 Foot Influence Zone
School
Health Care Facility
Residential Community
North Valley Baptist School
Valley House Rehabilitation Center
Knowledge Preschool
Stanford Primary Care
LAFAYETTE ST
GREAT AMERICA PKWY
MISSION COLLEGE BLVD
BOWERS AVE
SCOTT BLVD
101

Regulatory Background

Federal, state, and regional agencies regulate air quality in the SFBAAB, within which the project site is located.

Federal

Clean Air Act. The federal Clean Air Act (CAA) establishes the statutory framework for regulation of air quality in the United States. Under the CAA, the US EPA oversees implementation of federal programs for permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources.

Title I (Air Pollution Prevention and Control) of the federal CAA requires establishment of NAAQS, air quality designations, and plan requirements for nonattainment areas. States are required to submit a state implementation plan (SIP) to the US EPA for areas in nonattainment with NAAQS. The SIP, which is reviewed and approved by the US EPA, must demonstrate how state and local regulatory agencies will institute rules, regulations, and/or other programs to attain NAAQS.

Prevention of Significant Deterioration (PSD) is a federal program for federal attainment areas. The purpose of the federal PSD program is to ensure that attainment areas remain in attainment of NAAQS based upon a proposed facility's annual potential to emit. If annual emissions of a proposed project are less than prescribed amounts, a PSD review is not required. MCDC is not expected to be subject to PSD, with a final determination made by the local district at the time of permitting.

CAA section 112 (Title 42, U.S. Code section 7412) addresses emissions of hazardous air pollutants (HAPs). This section requires new sources that emit more than ten tons per year (tpy) of any specified HAP or more than 25 tpy of any combination of HAPs to apply Maximum Achievable Control Technology (MACT).

National Emission Standard for Hazardous Air Pollutants. The CAA defines HAPs as a variety of substances that pose serious health risks. Direct exposure to HAPs has been shown to cause cancer, reproductive effects or birth defects, damage to brain and nervous system, and respiratory disorders. Categories of sources that cause HAP emissions are controlled through separate standards under CAA Section 112: National Emission Standards for Hazardous Air Pollutants (NESHAP). These standards are specifically designed to reduce the potency, persistence, or potential bioaccumulation of HAPs. New sources that emit more than ten (10) tpy of any specified HAP or more than 25 tpy of any combination of HAPs are required to apply Maximum Achievable Control Technology (MACT).

Asbestos is a HAP regulated under the US EPA NESHAP. The asbestos NESHAP is intended to provide protection from the release of asbestos fibers during activities involving the handling of asbestos. Air toxics regulations under the CAA specify work practices for

asbestos to be followed during operations of demolitions and renovations. The regulations require a thorough inspection of the area where the demolition or renovation operations would occur and advance notification of the appropriate delegated entity. Work practice standards that control asbestos emissions must be implemented, such as removing, wetting, and sealing in leak-tight containers all asbestos-containing materials (ACM) and disposing of the waste as expediently as practicable.

State

The Air Resources Board (ARB) is the primary administrator of California's federal CAA compliance efforts, while local air quality districts administer air rules and regulations at the local and regional levels. ARB is also responsible for California's state regulated air quality management, including establishment of CAAQS for criteria air pollutants, mobile source/off-road equipment/portable equipment emission standards, portable equipment registration, greenhouse gas (GHG) regulations, as well as oversight of local or regional air quality districts and preparation of implementation plans, including regulations for stationary sources of air pollution.

Air Toxic "Hot Spots" Information and Assessment Act. The Air Toxic "Hot Spots" Information and Assessment Act, also known as Assembly Bill (AB) 2588, identifies TAC hot spots where emissions from specific stationary sources may expose individuals to an elevated risk of adverse health effects, particularly cancer or reproductive harm. Many TACs are also classified as HAPs. AB 2588 requires that a business or other establishment identified as a significant stationary source of toxic emissions provide the affected population with information about health risks posed by their emissions.

Airborne Toxic Control Measure (ATCM) for Emergency Standby Diesel-Fueled Engines. Statewide regulations govern the use of and emissions performance standards for emergency standby diesel-fueled engines, including those of the project. As defined by the California Code of Regulations (17 CCR §93115.4), an emergency standby engine is one that provides electrical power during an emergency use and is not the source of primary power at the facility; an emergency standby engine is not operated to supply power to the electric grid. The ATCM (17 CCR §93115.6) restricts each emergency standby engine to operate no more than 50 hours per year for maintenance and testing purposes. The ATCM establishes no limit on engine operation for emergency use or for emission testing to show compliance with the ATCM's standards.

Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. ARB has established the Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations to minimize the generation of asbestos from earth disturbance or construction activities. The Asbestos ATCM applies to any project that would include sites to be disturbed in a geographic ultramafic rock unit area or an area where naturally occurring asbestos (NOA), serpentine, or ultramafic rocks are determined to be present. Based upon review of the US Geological Survey map detailing natural occurrence of asbestos in California, NOA is not expected to be present at the project site (CDOC 2011).

Regional

The BAAQMD is the regional agency charged with preparing, adopting, and implementing emission control measures and standards for stationary sources of air pollution pursuant to delegated state and federal authority, for all projects located within their jurisdiction. Under the California CAA, the BAAQMD is required to develop an air quality plan to achieve and/or maintain compliance with federal and state nonattainment criteria pollutants within the air district's boundary.

Bay Area 2017 Clean Air Plan. BAAQMD adopted the Bay Area 2017 Clean Air Plan (CAP) on April 19, 2017 (BAAQMD 2017a). The 2017 CAP provides a regional strategy to protect public health and protect the climate. The 2017 CAP updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, pursuant to air quality planning requirements defined in the California Health & Safety Code. The 2017 CAP defines an integrated, multi-pollutant control strategy to reduce emissions of particulate matter, TACs, ozone and key ozone precursors, and greenhouse gases.

BAAQMD California Environmental Quality Act Guidelines. BAAQMD publishes California Environmental Quality Act (CEQA) guidelines to assist lead agencies in evaluating a project's potential impacts on air quality. The BAAQMD published the most recent version of its CEQA Guidelines in May 2017 (BAAQMD 2017b).

BAAQMD Regulation 2, Rule 2: New Source Review. This rule applies to all new or modified sources requiring an Authority to Construct and/or Permit to Operate. It requires the applicant to use the Best Available Control Technology (BACT) to control emissions if the source will have the potential to emit a BAAQMD BACT pollutant in an amount of 10 or more pounds per day (lbs/day). Note that pollutant calculations only include those emissions from readiness testing and maintenance, as emissions from emergency operations are exempt from district permitting. Offsets are required at a 1:1 ratio if more than 10 tpy of nitrogen oxides (NO_X) or Precursor Organic Compounds (POC), or more than 100 tpy of PM2.5, PM10, or SO_2, are emitted. If the potential to emit for NOx or POC is 35 tons per year or more, the offset ratio increases to 1.15:1 and offsets can no longer be obtained through the Small Facility Banking Account.

On June 3, 2019, the BAAQMD staff issued a new policy to protect the Small Facility Banking Account from over withdrawal by new emergency backup power generator sources. The policy provides procedures, applicable to the determination of access to the Small Facility Banking Account only, for calculating a facility's potential to emit (PTE) to determine eligibility for emission reduction credits (ERCs) from the Small Facility Banking Account for emergency backup power generators (BAAQMD 2019c, added to BAAQMD website on June 12, 2019). When determining the PTE for a facility with emergency backup power generators, the PTE shall include as a proxy, emissions proportional to emergency operation for 100 hours per year per standby generator, in addition to the permitted limits for readiness testing and maintenance (generally 50 hours/year or less per standby or backup engine). BAAQMD would not allow an owner/operator to accept a

permit condition to limit emergency operation to less than 100 hours per year to reduce the source's PTE for purposes of qualifying for the Small Facility Banking Account.

After comparing the PTE calculated to determine the account eligibility threshold, the applicant would only be required to use permitted emissions from readiness testing and maintenance and not the emissions from emergency operation to calculate the project PTE that would be offset to comply with the regular district banking and offset procedures. Emissions offsets represent ongoing emission reductions that continue every year, year after year, in perpetuity. BAAQMD uses offsets to counterbalance increases in regular and predictable emissions, not increases in emissions occurring infrequently when emergency conditions arise. An owner/operator may reduce hours of readiness testing and maintenance to achieve a PTE for ERC mitigation purposes or by installing emissions controls (BAAQMD 2019c).

The emissions of NOx from the generators would be mitigated through procurement of NOx emission offsets (Mission College 2019a, page 74). The applicant originally proposed 33 tons NOx ERCs by applying 1:1 offset ratio (Mission College 2020a, TN# 231960, Table Air DR-23). However, staff confirmed with the BAAQMD that the offset ratio of 1.15:1 should apply (CEC 2019c, TN# 230991). Therefore, the total required NOx ERCs should be 38 tons. Final details regarding the amount and the source of the NOx ERCs required for the project to comply with the offset requirements in BAAQMD's Regulation 2, Rule 2, under District policy, would be determined through the permitting process with the BAAQMD.

BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. This rule provides for the review of new and modified sources of TAC emissions to evaluate potential public exposure and health risk. Under this rule, a project would be denied an Authority to Construct if it exceeds any of the specified risk limits, which are consistent with BAAQMD's California Environmental Quality Act (CEQA) significance thresholds. Best Available Control Technology for Toxics (TBACT) would also be required for any new or modified source of TACs where the source has a cancer risk greater than 1.0 in 1 million or a chronic hazard index (HI) greater than 0.20. The specific toxicity values of each TAC, as identified by OEHHA, are listed in Table 2-5-1 of this rule for use in the HRA (BAAQMD 2019d).

BAAQMD Regulation 9, Rule 8: Nitrogen Oxides And Carbon Monoxide From Stationary Internal Combustion Engines. This rule limits NOx and CO emissions from stationary internal combustion engines with an output rated by the manufacturer at more than 50 brake horsepower, including the standby engines of the project. This regulation (Rule 9-8-231) defines emergency use as "the use of an emergency standby or low usage engine during any of the following: "

- In the event of unforeseeable loss of regular natural gas supply;
- In the event of unforeseeable failure of regular electric power supply;

- Mitigation or prevention of an imminent flood;
- Mitigation of or prevention of an imminent overflow of sewage or waste water;
- Fire or prevention of an imminent fire;
- Failure or imminent failure of a primary motor or source of power, but only for such time as needed to repair or replace the primary motor or source of power; or
- Prevention of the imminent release of hazardous material.

Significance Criteria

This analysis is based upon the methodologies and related thresholds in the most recent BAAQMD CEQA Guidelines (BAAQMD 2017b). These methodologies include qualitative determinations and determination of whether project demolition/construction and readiness testing and maintenance would exceed numeric emissions and health risk thresholds (BAAQMD 2017b).

BAAQMD project-level thresholds of significance for non-attainment criteria pollutants and precursor pollutants and TAC health risks that apply during construction and operation are shown in **Table 5.3-4**. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

For fugitive dust emissions during demolition/construction period, BAAQMD does not have a significance threshold. Rather, BAAQMD recommends using a current Best Management Practices (BMPs) approach, which has been a pragmatic and effective approach to the control of fugitive dust emissions.

Significance criteria also include Significant Impact Levels (SILs) for the particulate matter portions of the analysis. Regulatory agencies have traditionally applied SILs as a *de minimis* value, which represents the offsite concentration predicted to result from a source's emissions that does not warrant additional analysis or mitigation. If a source's modeled impact at any offsite location does not exceed the relevant SIL, the source owner would typically not need to assess multi-source or cumulative air quality analysis to determine whether or not that source's emissions would cause or contribute to a violation of the relevant NAAQS or CAAQS.

Staff evaluates project emissions against the BAAQMD emissions thresholds and also analyzes the project's potential to expose sensitive receptors to increased concentrations of criteria pollutants. The AAQS are health protective values, so staff uses these health-based regulatory standards to help define what is considered a substantial pollutant concentration. The BAAQMD thresholds of significance are an important aspect of staff's air quality analysis for MCBGF. Therefore, staff's analysis determines whether the project would be likely to exceed any ambient air quality standard or contribute substantially to an existing or projected air quality violation, and if necessary, proposes mitigation to reduce or eliminate these pollutant exceedances or substantial contributions. To

determine if the project could contribute to or create a substantial pollutant concentration for the nonattainment pollutant PM10, the US EPA PM10 Significant Impact Levels (SILs), established in regulations for nonattainment areas [40 CFR 51.165(b)(2)], for 24-hour impacts (5 µg/m^3) and for annual impacts (1 µg/m^3) have been used. Additionally, as shown above in **Table 5.3-4**, the BAAQMD significance threshold (for a project level) of annual ambient PM2.5 increase (0.3 µg/m^3), along with the potential to cause a new exceedance of an AAQS, are both used to determine project significance for PM2.5.

TABLE 5.3-4 BAAQMD THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction	Operation	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tpy)
ROG	54	54	10
NOx	54	54	10
PM10	82 (exhaust)	82	15
PM2.5	54 (exhaust)	54	10
PM10/ PM2.5 (fugitive dust)	Best Management Practices	None	
Risk and Hazards for New Sources and Receptors (Individual Project)	Same as Operation Threshold	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 PM2.5 increase: > 0.3 µg/m^3 annual average Zone of Influence: 1,000-foot radius from property line of source or receptor	
Risk and Hazards for New Sources and Receptors (Cumulative Threshold)	Same as Operation Threshold	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) PM2.5: > 0.8 µg/m^3 annual average (from all local sources) Zone of Influence: 1,000-foot radius from property line of source or receptor	

Source: BAAQMD 2017b, Table 2-1

For health risk evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Therefore, there are two kinds of thresholds for TACs. Cancer risk is expressed as excess cancer cases per 1 million exposed individuals, typically over a lifetime of exposure. Acute and chronic exposure to non-carcinogens is expressed as a hazard index (HI), which is the ratio of expected exposure levels to acceptable reference exposure levels (REL) for each of the TACs with acute and chronic health effects (BAAQMD 2017b). The significance thresholds for TACs and PM2.5 applied to the licensing

or permitting of a new source are listed in **Table 5.3-4** and summarized in the following text (BAAQMD 2017b).

The BAAQMD significance thresholds for a single source are as follows:

- An excess lifetime cancer risk level of more than 10 in 1 million
- A non-cancer chronic HI greater than 1.0
- A non-cancer acute HI greater than 1.0
- An incremental increase in the annual average PM2.5 concentration of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$)

The BAAQMD significance thresholds for cumulative impacts are also summarized below. A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot distance from the fence line of a source and the contribution from the project, exceeds the following:

- An excess lifetime cancer risk level of more than 100 in 1 million
- A non-cancer chronic HI greater than 10.0
- An annual average PM2.5 concentration of greater than 0.8 $\mu g/m^3$

5.3.2 Applicant Proposed Measures

The applicant proposes to implement design measures to reduce impacts to air quality. These measures were presented in the application's Project Description (Mission College 2019a, page 21, 22, 70 and 71).

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 off 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 NOx reduction and 70 percent PM reduction compared to the California Emissions Estimator Model (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 85 percent reduction in particulate matter exhaust; alternatively (or in combination)
- Use of diesel construction equipment that meets U.S. EPA Tier 4 interim or 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.

5.3.3 Environmental Impacts and Mitigation Measures

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Construction, Readiness Testing and Maintenance

Less Than Significant Impact. The BAAQMD has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents, and develops regulations that must be consistent with or more stringent than federal and state air quality laws and regulations. The applicable air quality plan (AQP) is the Bay Area 2017 CAP. A project would be consistent with the AQP if that project (BAAQMD 2017b, page 9-2 and 9-3):

1) Supports the primary goals of the AQP.

   The determination for this criterion, per BAAQMD, can be met through consistency with the District-approved CEQA thresholds of significance. As can be seen in the impact analysis discussions under checklist questions (b) and (c) below, the project would have less than significant impacts related to the District-approved CEQA thresholds. Therefore, the project would have a less than significant impact related to the primary goals of the AQP.

2) Includes applicable control measures from the AQP.

   The project would include the implementation of applicable control measures from the AQP.

3) Does not disrupt or hinder implementation of any AQP control measures.

   Examples of disrupting or hindering implementation of an AQP would be proposing excessive parking or precluding the extension of public transit or bike paths. The

project design as proposed is not known to hinder the implementation of any AQP control measure.

Therefore, given that the project would not exceed CEQA thresholds of significance, as discussed below under checklist questions (b) and ambient air quality standards under checklist question (c), the project would be consistent with the AQP and would have less than significant impacts.

Required Mitigation Measures: None.

b. Would the project 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?

This section focuses on whether the project's non-attainment criteria pollutant emissions exceed any of the BAAQMD construction or operation emissions significance thresholds for criteria pollutants. TAC effects are not included because they are not criteria pollutants.

Construction

Less Than Significant impact. For Phase I, construction activities are estimated to take approximately 14.5 months. Phase II construction is conservatively assumed to occur immediately following the completion of the first generation yard to take approximately 10.5 months (Mission College 2019a, page 19 and 69). Construction emissions from the construction of the MCDC would 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 (Mission College 2019a, page 69). Emissions from the construction period (260 total weekdays per year) were estimated using the California Emissions Estimator Model[5] (CalEEMod) program (Mission College 2019a, page 70 and Table 4.3-7). Estimated criteria pollutant construction emissions are summarized in **Table 5.3-5**.

5 CalEEMod was developed by the California Air Pollution Control Officers Association in collaboration with California Air Districts. This model is a construction and emissions estimating computer model that estimates direct criteria pollutant and direct and indirect greenhouse gas emissions for a variety of land use projects. The model calculates maximum daily and annual emissions. The model also identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures.

TABLE 5.3-5 CRITERIA POLLUTANT EMISSIONS FROM PROJECT DEMOLITION/CONSTRUCTION

Pollutant	Average Daily Emissions (lbs/day) [a]	Maximum Project Emissions (tons)	BAAQMD Significance Thresholds for Construction-related Average Daily Emissions (lbs/day) [c]	Threshold Exceeded?
ROG/VOC	33.7	4.39	54	No
CO	30.7	3.99	None	N/A
NOx	41.9	5.44	54	No
SO_2	0.1	0.01	None	N/A
PM10 [b]	4.59 (exhaust)	0.6 (exhaust)	82	No
PM2.5 [b]	1.7 (exhaust)	0.22 (exhaust)	54	No

Notes:
[a] There are no annual construction-related BAAQMD's thresholds of significance. The BAAQMD's thresholds are average daily thresholds. Accordingly, the results reported are the total project emissions averaged over the entire demolition and construction duration (i.e. 260 total weekdays per year).
[b] The average daily PM emissions estimates only include exhaust emissions, as the BAAQMD's thresholds are specific to exhaust emissions only. Fugitive emissions will be controlled with best management practices (BMPs), in accordance with the significance threshold.
[c] BAAQMD 2017b, Table 2-1
Source: Mission College 2019a, page 69 and Table 4.3-7

The average daily demolition and construction emissions shown in **Table 5.3-5** are based on the total project emissions averaged over the entire demolition and construction duration (i.e. 260 total weekdays per year). Excluding fugitive dusts, these average daily demolition and construction emissions are compared to the BAAQMD's significance thresholds for construction-related average daily emissions. For fugitive dust, construction emissions are not considered significant if the project uses BMPs. Therefore, the BAAQMD's significance thresholds for PM10 and PM2.5 emissions apply to exhaust emissions only (Mission College 2019a, page 69 and Table 4.3-7). **Table 5.3-5** shows that the average daily demolition and construction emissions would be lower than the thresholds of significance from the BAAQMD May 2017 CEQA Guidelines.

As mentioned above, there is no numerical threshold for fugitive dust generated during construction in BAAQMD. BAAQMD considers fugitive dust emissions to be significant without BMPs. Consequently, dust emissions generated by project construction activities would be potentially significant. The BAAQMD May 2017 CEQA Guidelines require control of fugitive dust through BMPs in order to conclude that impacts from fugitive dust emissions are less than significant. As mentioned under **Applicant Proposed Measures** in the beginning of **Section 2.4.1** at page 21 and 22 of the application, and **Section 4.4.4.4** at page 70 and 71 of the application, the applicant proposed to incorporate the BAAQMD's recommended construction BMPs as a project design feature. Staff determines the mitigation measures to be sufficient to reduce emissions even further than construction period emissions levels that were

analyzed by staff. Energy Commission staff does not recommend any additional Air Quality mitigation measures for demolition/construction emissions. The project would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be less than significant with the implementation of the APMs during demolition and construction.

Readiness Testing and Maintenance

Less Than Significant impact. Emissions would result from readiness testing and maintenance of the 45 generators for non-emergency testing and maintenance purposes, mobile sources such as employee vehicles, and general operation of the MCDC buildings (Mission College 2019a, page 72). Each of these emission sources is described in more detail below.

For annual emission calculation purposes, the Project emission calculation conservatively assumed an operational limit of 50 hours per year per generator for maintenance and testing activities in accordance with the ATCM (17 CCR §93115.6) (Mission College 2019a, page 72. Mission College 2020a, TN# 231960, page 9).

For daily emission calculation purposes, Project emission calculations conservatively assumed that any combination of the critical backup generators may be run for up to 24 hours in one day (e.g., 24 critical backup generators may each be tested for one hour in one day) and that any combination of the Life Safety Generators may be run for up to 24 hours in one day. In other words, 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 (Mission College 2019a, page 72. Mission College 2020a, TN# 231960, page 9). The modeling results of operation of 24 generators, each one separately and in one of the 24 hours of the day (an extremely unlikely scenario), do not indicate violation of any significance threshold nor results in significant environmental impacts. In addition, the applicant does not intend to operate the generators for more than 12 hours each annually (Mission College 2020a, TN# 231960, page 9).

Stationary Sources – Generator Emissions. The project would include 43, 2.5 MW emergency generators (critical backup generators) and 2, 600 kilowatts (kW) house power emergency generators (life safety generators) (Mission College 2019a, page 2). Each of the larger 43 generators would be a Tier-2 standby diesel fired generator equipped with diesel particulate filters (DPF). The generators would 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 would be a Caterpillar Model C18 600ekW. The maximum peak generating capacity of this model is 600kW with a continuous generating capacity of 420kW (Mission College 2019a, page 14).

The applicant 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. The emission calculations are based on the generator engine horsepower, hours of operation, and EPA family emission factors. Each generator would be equipped with a diesel particulate filter, for which a control efficiency of 85% is assumed per ARB Executive Order DE07-001-07. Per this executive order, ARB 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, NOx, ROG and CO are provided by the EPA engine family certification levels. The emission factors for sulfur dioxide (SO2) 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 SO2 emission factor from AP42 Section 3.4, Table 3.4-1 applies (Mission College 2019a, page 72).

For the purposes of the application, the applicant assumes 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 (Mission College 2019a, page 76). Emissions that could occur in the event of an outage that triggers emergency operations would not occur on a regular or predictable basis and are thus not included in the determination of whether the project would result in a cumulatively considerable net increase of criteria air pollutants (BAAQMD 2019c), but are analyzed qualitatively below.

Miscellaneous Sources - Mobile and Building Operation Emissions. Miscellaneous emissions would occur from operational activities from mobile sources and general operation of the MCDC buildings. The mobile sources include approximately 124 round trips daily to the MCDC encompassing employee and visitor trips. The building operational emissions would be from the use of consumer products, architectural coating, landscaping work, energy usage, solid waste disposal, and water usage. The applicant estimated the miscellaneous operational emissions using CalEEMod (Mission College 2019a, page 72-73).

TABLE 5.3-6 ANNUAL CRITERIA POLLUTANT EMISSIONS FROM PROJECT READINESS TESTING AND MAINTENANCE

	Annual Emissions (tpy)					
	ROG/VOC	**CO**	**NOx**	**SO_2**	**PM10**	**PM2.5**
Miscellaneous Sources	2.28	0.96	0.78	0.01	0.2	0.09
Standby Generators (Testing and Maintenance Only)	1.68	5.84	33	0.05	0.12	0.12
Offsets[a]	--	--	(38)	--	--	--
Total Mitigated Emissions	3.96	6.8	(4.22)	0.06	0.32	0.21
BAAQMD Annual Significance Thresholds	10	--	10	--	15	10
Mitigated Emissions Exceed BAAQMD Threshold? (Y/N)	N	N/A	N	N/A	N	N

Sources: Mission College 2019a, Table 4.3-9. Mission College 2020a, TN# 231960, Table Air DR-23.

a The applicant proposed NOx offset ratio of 1:1 (Mission College 2020a, TN# 231960, Response to Data Request 23). Staff confirmed with BAAQMD that the offset ratio should be 1.15:1 based on the new BAAQMD policy on PTE calculation and determined that the amount of offsets should be 38 tpy (CEC 2019a).

The BAAQMD CEQA Guidelines state that if the project's daily average or annual emissions of operational-related criteria air pollutants or precursors do not exceed any applicable threshold of significance listed in **Table 5.3-4**, the proposed project would not result in a cumulatively significant impact (BAAQMD 2017b).

Table 5.3-6 provides the annual criteria pollutant emission estimates for project readiness testing and maintenance using the emissions source assumptions noted above. **Table 5.3-6** shows that with NOx emissions from the readiness testing and maintenance of the standby generators fully offset through the permitting process with the BAAQMD, the project would not exceed any of the BAAQMD emissions significance thresholds. The BAAQMD significance thresholds for daily emissions are daily average values that scale to equal the annual thresholds. Therefore, a separate comparison of the project's average daily emissions versus the BAAQMD average daily significance thresholds is unnecessary.

Table 5.3-6 shows that the project would not be expected to result in a cumulatively considerable net increase of criteria pollutants during the lifetime of the project, including readiness testing and maintenance of the standby generators. The project would provide offsets for the NOx emissions that are generated during the assumed 50 hours of readiness testing and maintenance to be requested during the BAAQMD permitting process. Per District policy and at the BAAQMD's Regulation 2, Rule 2 offset ratio of 1:15 to 1, the project must provide 38 tpy of NOx offsets. The NOx emissions of the emergency generators during readiness testing and maintenance would be fully offset through the permitting process with the BAAQMD. Emissions from miscellaneous sources are not required to be offset under BAAQMD policy, which only applies to stationary sources. However, the offset of miscellaneous sources emissions would be required under CEQA. Therefore, the project readiness testing and

maintenance would not result in a cumulatively considerable net increase of any criteria pollutant, and these impacts would be less than significant.

Required Mitigation Measures: None.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

This impact analysis considers the potential for exposure to substantial pollutant concentrations for both criteria pollutants in an Air Quality Impact Analysis (AQIA), and toxic air contaminants in a Health Risk Assessment (HRA). This section discusses criteria pollutant impacts from demolition/construction and from readiness testing and maintenance. Then the section discusses HRA results of TACs for both demolition/construction and readiness testing and maintenance. Finally, the section discusses issues associated with potential emergency operations.

Criteria Pollutant Air Quality Impact Analysis

Staff considers any new AAQS exceedance and substantial contribution to any existing AAQS exceedance caused by project emissions to be substantial evidence of potentially significant impacts that would require the evaluation of potential mitigation measures.

Construction Air Quality Impact Assessment (AQIA)

Less than Significant Impact. As shown in **Table 5.3-5** under checklist question "b" above, the exhaust emissions during demolition and construction of the project would not exceed significance thresholds for construction activities established in the BAAQMD CEQA Guidelines. There is no numerical threshold for fugitive dust generated during construction in the BAAQMD Guidelines. Instead, the guidance calls for use of BMPs to reduce fugitive dust emissions so that impacts from fugitive dust emissions would be less than significant. Without these BMPs, the impact from fugitive dust emissions would be considered significant. The applicant stated it would incorporate measures into the project design that are consistent with the BAAQMD recommended BMPs to reduce fugitive dust emissions. The applicant-proposed measures (PD AIR-1), incorporated into the project design (Mission College 2019a, page 70-71), would avoid the potential for generating substantial pollutant concentrations due to fugitive dust. With these measures in place, impacts of criteria pollutant emissions during the demolition and construction period would be less than significant.

In response to staff data requests, the applicant provided the modeled ambient air quality concentrations caused by the demolition and construction emissions (Mission College 2020a, TN# 232047, DR#5 and DR#6, and Table 1). The applicant's dispersion modeling assumes construction activities would be limited to between 7:00 am and 6:00 pm on weekdays. The applicant found the maximum annual-average concentration of total PM2.5 to be 0.19 $\mu g/m^3$ (Mission College 2020a, TN#232047, DR#5) and because the combustion-related fraction of PM2.5 emissions

would be less than half of the total PM2.5 emissions (Mission College 2019a, page 70), the maximum combustion-related PM2.5 annual-average concentration would be approximately 0.09 µg/m^3 with the remainder of the PM2.5 impact being from fugitive dust. These modeled results, including combustion-related emissions and fugitive dust, have been included in the impacts shown in **Table 5.3-7**.

TABLE 5.3-7 MCBGF MAXIMUM IMPACTS DURING DEMOLITION AND CONSTRUCTION (µg/m^3)

Pollutant	Averaging Time	Project Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24-hour	2.32	**69.8**	**72.1**	**50**	**144%**
	Annual	0.4	**21.9**	**22.3**	**20**	**112%**
PM2.5	24-hour	0.6	30	30.6	35	87%
	Annual	0.19	10.2	10.4	12	87%
CO	1-hour	157	2,748	2,905	23,000	13%
	8-hour	47	2,061	2,108	10,000	21%
NO_2	State 1-hour	110	162	272	339	80%
	Federal 1-hour	90.8	94	185	188	98%
	Annual	3	24.1	27	57	48%
SO_2	State 1-hour	0.24	9.4	9.6	655	1%
	Federal 1-hour	0.21	6.1	6.3	196	3%
	24-hour	0.38	2.9	3.3	105	3%

Notes: Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.
Source: MCBGF Data Request Response 5 (Mission College 2020a, TN#232047).

The results provided in **Table 5.3-7** are the maximum impacts determined at any point at the project fence line or beyond. The maximum impacts for sensitive receptors would be lower than these maximum values. **Table 5.3-7** shows the maximum modeled impacts during the demolition and construction period, and the impacts of criteria pollutant emissions during the demolition and construction period would be below the limiting standards. Accordingly, demolition and construction would not expose sensitive receptors to substantial pollutant concentrations, and this impact would be less than significant.

Readiness Testing and Maintenance AQIA

Less Than Significant Impact. The applicant provided an ambient air quality impact analysis to compare worst-case ground-level impacts resulting from the project's readiness testing and maintenance with established state and federal ambient air quality standards. The applicant used the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD [Version 19191]) with regulatory default options, as recommended in US EPA's Guideline on Air Quality Models (US EPA 2017).

The applicant's modeling analysis, described in more detail below, included the standby generator engines emissions source, but did not include other on-site emissions sources, such as natural gas combustion emissions for space heating. The

applicant's modeling analysis included an impact analysis for readiness testing and maintenance.

Meteorological Data. The applicant used the 5-year (2013-2017) record of hourly meteorological data available from the BAAQMD. The meteorological data were collected at the San Jose International Airport surface station, which is located approximately 4 km (2.5 miles) from the proposed project site and best represents the meteorology at the project site. The concurrent daily upper air sounding data from the Oakland International Airport station were also included. The BAAQMD preprocessed the data with AERMET (Version 18081) for direct use in AERMOD.

Refined Analysis for 1-Hour NO_2 standards. For comparison to the 1-hour NO_2 NAAQS and CAAQS, the applicant's modeling followed a third-tier approach using the Plume Volume Molar Ratio Method (PVMRM), as described in US EPA's Guideline on Air Quality Models (US EPA 2017). For the applicant's PVMRM modeling analysis, the applicant selected an in-stack NO_2/NOx ratio (ISR) of 0.1, which is a typical ratio for diesel-fired internal combustion engines.

The applicant's use of PVMRM included historic monitored ozone data for every hour of the 5-year record (2013-2017) as required input for the PVMRM approach. The applicant's modeling did not include temporally-variable background data for NO_2, and instead conservatively included the highest 1-hour observed concentration from the monitoring station at 158 Jackson Street in San Jose, California for 2016 to 2018 (Mission College 2019b, Air Quality Impact Assessment Table 3-4).

Staff conducted an additional refined analysis for 1-hour NO_2 impacts using PVMRM upon discovering that certain engines could cause higher concentrations of NO_2 than those identified in the applicant's data request responses. This was because the applicant's screening to select the worst-case engine did not apply the PVMRM approach, and after applying PVMRM, the peak concentrations shifted to different conditions of modeled hours and engines. Staff's additional analysis also uses the seasonal hourly (SEASHR) background data for NO_2 to add to the project's incremental NO_2 impact to predict the total NO_2 concentration and compare with the CAAQS. The total 1-hour NO_2 concentration equals the sum of the modeled result plus the background.

For both 1-hour NO_2 NAAQS and CAAQS analysis, the applicant assumed only one generator would operate at a time for readiness testing and maintenance purposes.

Modeling Assumptions for Readiness Testing and Maintenance

The Project Description indicates that the larger 43 (2.5-MW nameplate) standby engine-generator sets would be installed on two different levels. Engines on the upper level support structure would have a stack height of 38.4 feet, and engines on the lower level would have a stack height of 25.1 feet. The two smaller life-safety generator engines would release exhaust from stack heights of 15.1 feet. None of the

engine exhaust stacks would have horizontal releases or rain caps (Mission College 2019a, page 14).

The applicant's screening analysis modeled each engine at five different loads from 10% to 100% load (Mission College 2019b, Air Quality Impact Assessment Table 4-7). Modeling assumes that each engine would typically only be tested individually for up to one hour at any one time. Because the applicant does not propose to limit testing to certain hours within a day, each engine could be tested at any time of day.

The annual impacts were analyzed using the limit of 50 hours per generator per year for readiness testing and maintenance purposes. Modeled emissions for the 3-hour, 8-hour, and 24- hour averaging times assumed that engines could be tested during roughly ten hours in any given day (Mission College 2019b, Air Quality Impact Assessment Table 4-7 and Appendix AQ-3).

The short-term (i.e. 1-hour, 8-hour, and 24-hour) and long-term (annual) impacts of readiness testing were all analyzed according to the averaging period of each standard for each hour, each day, and each year of the meteorological dataset.

Testing Only a Single Generator at Any Given Time. The applicant proposes to conduct routine readiness testing on only one engine at any one time; however, testing could occur during any time of day.

Table 5.3-8 shows that the impacts from standby generator engine testing during operation would not cause exceedances of the PM2.5, CO, NO_2, or SO_2 standards. **Table 5.3-8** also shows that the existing 24-hour and annual PM10 background concentrations are already above the CAAQS. The project would therefore contribute to existing exceedances of the 24-hour and annual PM10 CAAQS. The modeled PM10 and PM2.5 concentrations from project standby generator engine testing are below the PM10 SILs of 5 $\mu g/m^3$ for 24-hour impacts and 1 $\mu g/m^3$ for annual impacts, and the BAAQMD threshold for annual-average PM2.5 of 0.3 ug/m^3, for risk and hazards.

TABLE 5.3-8 MCBGF MAXIMUM IMPACTS DURING READINESS TESTING AND MAINTENANCE (µg/m^3)

Pollutant	Averaging Time	Project Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24-hour	0.44	**69.8**	**70.2**	**50**	**140%**
	Annual	0.07	**21.9**	**22.0**	**20**	**110%**
PM2.5	24-hour	0.31	30	30.3	35	87%
	Annual	0.07	10.2	10.3	12	86%
CO	1-hour	65	2,748	2,813	23,000	12%
	8-hour	46	2,061	2,107	10,000	21%
NO_2	State 1-hour [a]	---	---	277	339	82%
	Federal 1-hour [b]	82.4	94	176	188	94%
	Annual	16	24.1	40	57	70%
SO_2	State 1-hour	0.01	9.4	9.4	655	1%
	Federal 1-hour	0.01	6.1	6.1	196	3%
	24-hour	0.38	2.9	3.3	105	3%

Notes:
Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.
[a.] For CAAQS 1-hour NO_2 impacts, this is the project impact and seasonal hour of day background for source "GEN2A"; staff reports the highest 1-hour NO_2 result (modeled on 5/12/2017).
[b.] For NAAQS 1-hour NO_2 impacts, this is the project impact and maximum background for source "LSGEN44F" using the maximum 8th-highest daily 1-hour result as averaged over five years to relate to the yearly 98th percentile.
Source: Mission College 2019b Air Quality Impact Assessment Table 4-9, updated by staff analysis for 1-hour NO_2 impacts.

The results provided in **Table 5.3-8** are the maximum impacts determined at any point at the project fence line or beyond. The impacts for sensitive receptors would be lower than these values because they are located further away from the stacks. The criteria pollutant concentrations in **Table 5.3-8** show that impacts during routine operation with readiness testing and maintenance would be below the limiting standards. Accordingly, standby generator engine testing would not expose sensitive receptors to substantial pollutant concentrations, and this impact would be less than significant.

Localized CO Impacts

Engine exhaust may elevate localized CO concentrations, resulting in "hot spots". Receptors exposed to these CO hot spots may have a greater likelihood of developing adverse health effects. CO hot spots are typically observed at heavily congested intersections where a substantial number of vehicles idle for prolonged durations throughout the day. BAAQMD screening guidance indicates that a project would not exceed the CO significance threshold if a project's traffic projections indicate traffic levels would not increase at any affected intersection to more than 44,000 vehicles

per hour or at any affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited.

The proposed project would generate a small number of vehicle trips to the site. These trips include workers, material, and equipment deliveries. It is unlikely that the addition of vehicle trips from the project on any roadway in the vicinity of the project site would result in an exceedance of the BAAQMD screening threshold. As a result, the additional vehicle trips associated with the project would result in a negligible effect on CO concentrations in the vicinity of the project site.

Table 5.3-8 shows that the CO impacts from the emergency engine generators, during readiness testing, would be well below the limiting standards for the 1-hour and 8-hour average CO concentrations.

Required Mitigation Measures: None.

Health Risk Assessment (HRA) for Toxic Air Contaminants

The Health Risk Assessment (HRA) for the project was conducted separately for the project demolition/construction and for the standby generator readiness testing and maintenance.

Construction HRA

Less Than Significant Impact. As mentioned above, for Phase I, construction activities are estimated to take approximately 14.5 months. Phase II construction is conservatively assumed to occur immediately following the completion of the first generation yard and to take approximately 10.5 months. Construction emissions from the construction of the MCDC would 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 would result primarily from material transport to and from the site, material placement in the generation yard, and worker travel (Mission College 2019a, page 69). Emissions from demolition/construction period (260 total weekdays per year) were estimated using the California Emissions Estimator Model (CalEEMod) program (Mission College 2019a, page 70 and Table 4.3-7). The only TAC considered in the HRA for construction activities was diesel particulate matter (DPM), which is a surrogate for diesel exhaust.

Applicant's Construction HRA

Per staff's request in Data Request 10, the applicant conducted an HRA for both the Project construction and operation together. Modeling the overlapping period of Phase I operation and Phase II construction together provide a conservative estimate of Project construction emissions which would have higher and more impactful results

than modeling the Phase 1 or Phase 2 construction periods independently (Mission College 2020a, TN# 232047, page 7).

The applicant provided the HRA results for the overlapping period of Phase I operation and Phase II construction of the Project. Per the applicant's construction schedule, there would be seven critical backup generators in operation while Phase II construction is ongoing. One life safety generator is conservatively assumed to be in operation as well. As such, the HRA included the maximum annual diesel particulate matter (DPM) construction emissions in conjunction with maximum annual DPM emissions from the seven critical backup generators and one life safety generator. The locations of the seven critical backup generators were selected based on the seven worst-case locations for the Phase I building determined in the load-screening analysis (Mission College 2020a, TN# 232047, page 8).

The emission sources for the Phase I operation and Phase II construction of the Project are modeled as follows (Mission College 2020a, TN# 232047, page 8):

- One volume source representative of construction equipment tailpipe emissions. The volume source type was selected because tailpipe emissions would occur over a large spatial area at a slight elevation above ground due to equipment tailpipe placement.
- Eight point sources representative of the seven critical backup generators and one life safety generator that would be installed as part of the Phase 1 operation while Phase 2 construction is ongoing.

AERMOD (version 19191) dispersion modeling and the Hotspots Analysis and Reporting Program (HARP) Air Dispersion Modeling and Risk Tool (ADMRT) (version 19121) were used to estimate carcinogenic and chronic health risks at residential and worker receptors as a result of the emissions from the overlapping Phase I operation and Phase II construction of the Project (Mission College 2020a, TN# 232047, page 8). The US EPA approved AERMOD (version 19191) air dispersion modeling program was used to derive the maximum annual ground-level concentrations. The modeled output (maximum ground-level concentrations) was used by HARP (ADMRT 19121) to prepare the construction HRA. The AERMOD dispersion model was run using an emission rate of 1 g/s for "Other" pollutant for the area and point sources to represent DPM. The AERMOD results are then scaled by the source-specific emission rates for input into HARP. The emission rates used to represent the construction volume source described above are based on the maximum annual exhaust particulate matter emission rates across the two phases of construction as presented in **Table 5.3-5** above (Table 4-4 of the AQIA.6 of the application) (Mission College 2019b, Air Quality Impact Assessment, page 4-6). The emission rates used to represent the critical backup generator and life safety generator point sources described above were based on the annual operational emissions of particulate matter presented in **Table 5.3-6** (Table 4-5 of the AQIA.6 of the application) (Mission College 2019b, Air Quality Impact Assessment, page 4-10).

The results of the HRA for construction activities are presented in **Table 5.3-9** (Mission College 2020a, TN# 232047, page 9 and Table 3) and show that the excess cancer risks, chronic HIs and acute HIs at the Maximally Exposed Individual Resident (MEIR), Maximally Exposed Individual Worker (MEIW) and Maximally Exposed Individual Sensitive Receptor (MEISR) are less than the BAAQMD's significance thresholds of 10 in 1 million and 1, respectively.

The cancer risk of PMI is higher than 10. The applicant stated:

> "the PMI in this evaluation is not located in a MEI location and is not appropriate to compare to the significance thresholds of the health risk evaluation." (Mission College 2020a, TN# 232047, Table 3), and
>
> "the PMI for this assessment is located along the southeast side of the Facility property boundary, which does not have residences nor businesses in the near vicinity. The PMI location is outside of a building in a place where the Oppidan does not anticipate individuals would be located for extended periods of time. Additionally, the BAAQMD CEQA Air Quality Guidelines note that the health risk evaluation should be considered for the maximally exposed individual (MEI). Per BAAQMD Rule 2-5-302 and BAAQMD Rule 11-18-213, the MEI is defined as 'a person that may be located at the receptor location where the highest exposure to toxic air contaminants emitted from a given source or project is predicted, as shown by an APCO-approved HRA. [6,7] The definitions go on to specify that MEI locations consider exposure to residents, workers, and students. As such, the 10 in one million risk threshold only applies to MEI receptor locations and does not apply to the PMI, unless the PMI is co-located with a MEI. The PMI in this evaluation is not located in a MEI location and is not appropriate to compare to the significance thresholds of the health risk evaluation. Since the PMI is not located at a receptor location where a person may reasonably be located on a long-term basis, the 10 in 1 million cancer risk threshold is not applicable to the PMI location" (Mission College 2020a, TN# 231960, page 14).

Staff agrees with the applicant. Although the cancer risk of Point of Maximum Impact (PMI) computed by the applicant is 27.2, which is higher than 10, it is located on the project fence line, neither a residential nor a sensitive receptor. In addition, the chronic, non-hazard impact at the PMI is 1.46×10^{-2}, which is less than the threshold of 1.0. Staff does not expect a person to stay at the PMI location throughout the construction period. Also, the applicant would install add-on devices such as

6 Per BAAQMD Regulation 2 Rule 5: New Source Review of Toxic Air Contaminants: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-rule-5-new-source-review-of-toxic-air-contaminants/documents/rg0205_120716-pdf.pdf?la=en

7 Per BAAQMD Regulation 11 Rule 18: Reduction of Risk from Air Toxic Emissions at Existing Facilities: https://www.baaqmd.gov/~/media/dotgov/files/rules/regulation-11-rule-18-reduction-of-risk-from-air-toxic-emissions-at-existing-facilities/documents/20171115_fr_1118-pdf.pdf?la=en

particulate filters in its Exhaust Control Measures (Mission College 2019a, page 22). Moreover, the HRA was based on extremely conservative assumptions (i.e. overlapping period of Phase I operation and Phase 2 construction of the project). Finally, other nearby sensitive receptors are all below the thresholds. Considering all these, the health risks of construction of the project (overlapping project operation) would be a less than significant impact.

TABLE 5.3-9 PHASE I OPERATION AND PHASE II CONSTRUCTION -- MODELED RECEPTOR MAXIMUM HEALTH RISK

Receptor Type	Cancer Risk Impact (in one million)	Chronic Non-Cancer Hazard Index (HI)	Acute Non-Cancer Hazard Index (HI)
MEIR[1]	6.56	3.44E-03	NA
MEIW[2]	1.19	7.30E-03	NA
MEISR[3]	0.674	3.54E-04	NA
BAAQMD Threshold	**10**	**1**	NA

Notes:
[1]Maximally Exposed Individual Resident (MEIR). It is located to the north of the site at a distance of approximately 292 ft. from the project fence line.
[2]Maximally Exposed Individual Worker (MEIW). It is located to the east of the site at a distance of approximately 100 ft. from the project fence line.
[3]Maximally Exposed Individual Sensitive Receptor (MEISR). It is a health care facility located 0.13 miles (680 ft.) to the southwest from project property boundary.
[4]Point of Maximum Impact (PMI). It is located on the southeast corner of the project fence line.
Source: Mission College 2020a, TN# 232047, page 9 and Table 3.

Readiness Testing and Maintenance HRA

Less Than Significant Impact. Project operation would include TAC emissions from the diesel-fired emergency standby engines. The only on-site emissions included in the applicant's HRA are the TAC emissions from testing and maintenance of the diesel-fueled emergency standby engines. Offsite vehicle trips for worker commutes and material deliveries were not included in HRA. The specific TACs evaluated in the project readiness testing and maintenance HRA were DPM. DPM emissions resulting from diesel stationary combustion were assumed equal to PM10/2.5 emissions.

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 the applicant's experience that maintenance and testing of each engine rarely exceeds 12 hours annually (Mission College 2019a, page 17) and the applicant does not intend to operate the generators for more than 12 hours each annually (Mission College 2020a, TN# 231960, page 9).

Applicant's Readiness and Maintenance HRA

Per staff's request in Data Request 15, the applicant has included the revised HRA for the operational phase of the Project which more accurately accounts for the various operational loads of the critical backup generators and life safety generators by weighting risk results according to the projected annual testing and maintenance schedule (Mission College 2020a, TN# 231960, page 11).

AERMOD dispersion modeling and Hotspots Analysis and Reporting Program (HARP) Air Dispersion Modeling and Risk Tool (ADMRT) (version 19121) were used to estimate the carcinogenic and chronic health risks from the operation of the different critical backup generator engine loads used for maintenance and testing, which were 10%, 25%, 50%, and 100%. One AERMOD dispersion model was used to represent emissions for each engine load, in which the 43 critical backup generator engines were modeled using the load-specific stack parameters per manufacturer specification sheets. The 2 life safety generators were modeled assuming 100% load stack parameters (Mission College 2020a, TN# 231960, page11 and Table 2). The HARP results from each modeled load applied a ratio of time spent at each load. The ratio of time spent at each load was determined using the planned maintenance and testing schedule (Mission College 2020a, TN# 231960, page12 and Table 3). The annual average hours per critical backup generator for each load were calculated as the product of the duration of each load and the frequency per year summed for each maintenance and testing event (Mission College 2020a, TN# 231960, page12 and Table 4). The weighted average load scenario HRA results were then calculated by applying the ratio of time at each load (Mission College 2020a, TN# 231960, Table 4 and page 13).

The HRA included potential health impacts from TAC exposure on receptors through the inhalation, dermal absorption, soil ingestion, and mother's milk pathways, as required by OEHHA Guidance. The inhalation cancer potency, oral slope factor values, and reference exposure levels (RELs) used to characterize health risks associated with the modeled impacts were obtained from the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values (OEHHA 2018).

Air was the dominant pathway for public exposure to chemical substances that would be released by the project. Emissions to the air would consist primarily of combustion by products produced by the standby generators. Inhalation was the primary exposure pathway for all modeled sources and substances. For multi-pathway substances, non-inhalation exposure pathways are also to be evaluated. Additional pathways conservatively included in the health risk modeling were dermal absorption, soil ingestion, and mother's milk (Mission College 2019a, page 81). The pathways for surface drinking water, still-water fishing, and subsistence farming (the consumption of beef, dairy, pork, chicken, and eggs) were not in the assessment (Mission College 2020a, TN# 231960, HARP output files).

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

The results of the applicant's HRA for facility wide MCBGF operation are presented in **Table 5.3-10** (Mission College 2020a, TN# 231960, page 13 and Table 5) and show that the excess cancer risks, chronic HIs and acute HIs at the MEIR, MEIW and MEISR are less than the BAAQMD's significance thresholds of 10 in 1 million and 1, respectively.

The cancer risk of PMI is higher than 10. The applicant stated:

> "the PMI for this assessment is located along the northwest side of the Facility property boundary, which does not have residences nor businesses in the near vicinity. The PMI location is outside of a building in a place where the Oppidan does not anticipate individuals would be located for extended periods of time. Additionally, the BAAQMD CEQA Air Quality Guidelines note that the health risk evaluation should be considered for the maximally exposed individual (MEI). Per BAAQMD Rule 2-5-302 and BAAQMD Rule 11-18-213, the MEI is defined as 'a person that may be located at the receptor location where the highest exposure to toxic air contaminants emitted from a given source or project is predicted, as shown by an APCO-approved HRA. [8,9] The definitions go on to specify that MEI locations consider exposure to residents, workers, and students. As such, the 10 in one million risk threshold only applies to MEI receptor locations and does not apply to the PMI, unless the PMI is co-located with a MEI. The PMI in this evaluation is not located in a MEI location and is not appropriate to compare to the significance thresholds of the health risk evaluation. Since the PMI is not located at a receptor location where a person may reasonably be located on a long-term basis, the 10 in 1 million cancer risk threshold is not applicable to the PMI location" (Mission College 2020a, TN# 231960, page 14).

Staff agrees with the applicant. Although the cancer risk of PMI computed by the applicant is 43.87, which is higher than 10, it is located on the project fence line, neither a residential nor a sensitive receptor. In addition, the chronic, non-hazard impact at the PMI is 1.01×10^{-2}, which is less than the threshold of 1.0. Staff does not expect a person to stay at the PMI location for the duration of the assumed exposure. Also, each of the larger 43 generators would be equipped with diesel

8 Per BAAQMD Regulation 2 Rule 5: New Source Review of Toxic Air Contaminants: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-rule-5-new-source-review-of-toxic-air-contaminants/documents/rg0205_120716-pdf.pdf?la=en

9 Per BAAQMD Regulation 11 Rule 18: Reduction of Risk from Air Toxic Emissions at Existing Facilities: https://www.baaqmd.gov/~/media/dotgov/files/rules/regulation-11-rule-18-reduction-of-risk-from-air-toxic-emissions-at-existing-facilities/documents/20171115_fr_1118-pdf.pdf?la=en

particulate filters (DPF) (Mission College 2019a, page 14). Moreover, the HRA was based on extremely conservative assumptions (i.e. 30-year exposure, 50 hours per year of operation hours). And finally, other sensitive receptors are all below the thresholds. Considering all these, the health risks of readiness testing and maintenance of the project would be a less than significant impact.

TABLE 5.3-10 READINESS TESTING AND MAINTENANCE -- MODELED RECEPTOR MAXIMUM HEALTH RISK

Receptor Type	Cancer Risk Impact (in one million)	Chronic Non-Cancer Hazard Index (HI)	Acute Non-Cancer Hazard Index (HI)
MEIR[1]	8.4	1.94E-03	NA
MEIW[2]	6.09	4.69E-03	NA
MEISR[3]	0.47	3.65E-04	NA
BAAQMD Threshold	10	1	NA

Notes:
[1]Maximally Exposed Individual Resident (MEIR).
[2]Maximally Exposed Individual Worker (MEIW). It is located to the east of the site at a distance of approximately 160 ft. from the project fence line.
[3]Maximally Exposed Individual Sensitive Receptor (MEISR). It is a health care facility located 0.13 miles (680 ft.) to the southwest from project property boundary.
[4]Point of Maximum Impact (PMI). It is located on the northwest corner of the project fence line.
Source: Mission College 2020a, TN# 231960, page 13 and Table 5

Cumulative Impact analysis

Table 4.3-13 of the application summarizes the impacts from cumulative sources in comparison to the BAAQMD threshold of significance for cumulative risk and hazards. The maximum cumulative cancer risk is 59.17, below the threshold of 100. The maximum cumulative Hazard Index (0.01) and cumulative Maximum PM2.5 (0.75) are also below the thresholds (10 and 0.8, respectively) (Mission College 2019a, page 82).

Staff also conducted a cumulative HRA, which is an assessment of the proposed Project's impact summed with the impacts of existing sources within 1,000 feet[10] of the Project. The results of staff's cumulative HRA were compared to the BAAQMD CEQA cumulative thresholds of significance (BAAQMD, 2017b) in **Table 5.3-11**. The staff's cumulative HRA includes three major sources of impacts: (1) stationary sources; (2) surrounding highways, main streets, and railways; and (3) the proposed project.

1. Stationary Sources

The cumulative cancer risk, non-cancer hazard index, and PM2.5 concentrations of existing stationary sources were first retrieved from BAAQMD'S Permitted Sources Risk

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

and Hazards Map[11]. Then the risks were calculated using BAAQMD's Health Risk Calculator[12] to refine screen-level cancer risk, non-cancer health hazard index, and PM2.5 concentrations. The Health Risk Calculator incorporates factors such as risk associated with individual toxic air contaminants emitted from an existing stationary source and how far a stationary source is from the Project's MEIR or MEIW location to calculate overall cancer risk, hazard index, and PM2.5 concentration from a stationary source.

Staff searched the emissions data from existing stationary sources within 1,000 feet of the proposed Project and estimated the distances of these stationary sources to the Project's MEIR and MEIW. Staff then applied these distances in the Health Risk Calculator to get the refined cumulative cancer risk, non-cancer hazard index, and PM2.5 concentration of the stationary sources at the Project's MEIR and MEIW.

2. Surrounding Highways, Main Streets, and Railways

The cancer risk and PM2.5 concentration from highways, major streets and railways located 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 annual average daily traffic (Mission College 2019a, page 82). Staff received the risk numbers for the surrounding highways, main streets, and railways within 1,000 feet of the project from BAAQMD.

3. The Proposed project

For the proposed project, please see the result of the applicant's HRA for facility wide operation of MCGF beginning on page 5.3-37 and presented in **Table 5.3-10**.

Table 5.3-11 summarizes the results of the staff cumulative HRA and compares them to the BAAQMD thresholds of significance for cumulative risk and hazards. The cumulative cancer risk, hazard index, and PM2.5 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.

11 The BAAQMD'S Permitted Sources Risk and Hazards Map can be accessed here: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

12The BAAQMD Health Risk Calculator Beta 4.0 can be downloaded here: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/tools/baaqmd-health-risk-calculator-beta-4-0-xlsx.xlsx?la=en

Evaluating Emergency Operations

The air quality impacts of emergency generator operation during emergencies are not quantified below because impacts of emergency operations are typically not evaluated during facility permitting and air districts do not normally conduct an air quality impact assessment of such impacts. Energy Commission staff assessed the likelihood of emergency events but finds that assessing the air quality impacts of emergency operations would require a host of unvalidated, unverifiable, and speculative assumptions about when and under what circumstances such a hypothetical emergency would occur. Such a speculative analysis is not required under CEQA (CEQA Guidelines § 15064(d)(3) and § 15145).

Table 5.3-11 IMPACTS FROM CUMULATIVE SOURCES WITHIN 1,000 FEET OF THE PROJECT

Sources of Cumulative Impacts	Maximum Cancer Risk (pe million) to MEIR	Maximum Cancer Risk (pe million) to MEIW	Maximum Hazard Index to MEIR	Maximum Hazard Index to MEIW	Maximum Annual PM2.5 ($\mu g/m^3$) to MEIR	Maximum Annual PM2.5 ($\mu g/m^3$) to MEIW
Stationary Sources	6.68	7.1	0.01	0.012	0.08	0.08
Surrounding Highways, Main Streets, and Railways	32.5	37	-	-	0.53	0.61
Project	8.3	6.09	0.00194	0.00469	0.07	0.07
Cumulative Sources	**47.48**	**50.19**	**0.01194**	**0.01529**	**0.68**	**0.76**
Significance Threshold	**100**	**100**	**10**	**10**	**0.8**	**0.8**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

Staff determined that assessing air quality impacts of emergency operation of the standby generators could be speculative for the following reasons:

- Emergency operations only occur when the facility has a power outage. Power outages in the SVP service territory have historically been very infrequent and irregular and are expected to remain so. Outages have been unplanned and unpredictable. During most years there have been no outages that have triggered operation of emergency generators at data centers in SVP's service territory. Even when outages have occurred, they have affected only a small number of facilities.
- Grid upsets are variable and unpredictable, depending on cause and remedy. For example, some would be short enough to avoid triggering emergency operation of the standby generators. Another may be longer if equipment repair or replacement is required. Another may be avoided entirely if a redundant transmission component can be immediately switched into service.

- The number of standby generators that could need to operate during a triggering outage and associated emissions would be continuously variable. The number of generators operating during an emergency would depend on instantaneous power demand of the data center at the time of an outage and could vary with changing demand during the outage.

  The number of standby generators that would need to operate during an emergency could also vary because some engines are redundant to ensure reliability should one or more of the engines fail during the emergency. As a result, the exact stack combinations and their locations within MCBGF are indeterminate for a specific emergency scenario. Modeling results can be highly sensitive to even minor adjustments of these variables.

- The load levels at which the standby generators would need to operate during a power outage would be variable based on the actual power demand during the outage and the level of backup power reliability required by parties contracting to use the data servers. Backup strategies vary, for example, as in how many standby backup generators might be started up to provide "backup" for the other operating backup generators as a way to provide compound redundancy, should an occupant contract for it.

  Factors that would affect the instantaneous power demand of the data center include the data center's level of occupancy, type of occupants and their operational use of their servers, time of day, day of week, holiday or not, the rate of transactions occurring during the outage, and so forth. Data center occupants instantaneously vary the number of servers operating by turning them on or off to adjust to varying processing demand to maintain responsiveness to online customers at the lowest operational cost. For example, the data center power demand required for processing credit card transactions would be expected to be much higher on a Black Friday shopping day following a Thanksgiving holiday, than on a slower shopping day. Conversely, overnight server activity when the servers perform backup or mirroring activities could be higher than normal daytime commercial activity.

  The amount of electrical demand also depends on the need for cooling, which would vary by season and hour of day.

  Additionally, occupants could have varying responses to power outages. They could, for instance, immediately begin shifting their processing load to another data center requiring high initial power demand, and then, once shifting was complete, drastically reduce demand for the remainder of the outage. Similar unpredictable power demand variability can be expected with a mix of other customers such as banking, streaming entertainment, university, call centers, government and public operations and email, communications, and social media. Varying server demand, of course, influences other facility demands, such as for air conditioning to cool operating data servers.

Therefore, staff is unable to make an informed assumption of the level of electrical demand that would be needed during an outage and therefore cannot make an informed estimate of quantified emission rates during emergency use of the backup generator engines.

Historical SVP Power Outage Frequency

This section provides information on the likelihood of an interruption of SVP's electrical supply that would trigger emergency operations of the standby generators at the MCBGF. Approximately 10 years of historical data of past outages of data centers in the SVP service territory are available. Staff has used it to estimate the frequency and duration of reasonably foreseeable future electrical outages that could trigger emergency operations. By definition, emergency operations would be unplanned and infrequent.

Reliability statistics for all electric customers served by SVP appears within the 2018 Integrated Resource Plan (IRP), and to expand on this information, Energy Commission staff explored specifically how data centers in SVP's territory have been historically affected by outages.

From the 2018 IRP: "SVP's electric system experiences approximately 0.5 to 1.5 hours of outage time per customer per year. This compares favorably with other utilities in California with reliability factors ranging from 1.0 to 2.5 hours outage per customer per year" (SVP 2018a). The 2018 IRP for SVP reports the Average Service Availability Index (ASAI) – defined as the customer-minutes-available divided by the total customer-minutes, expressed as a percentage – and the ASAI has been 99.979% or higher in each recent year, with an average of 99.989% over the past seven years. The SAIFI (interruptions per customer) shows that one or fewer outages have occurred, on average, for all customer types annually (SVP 2018a). This data for all customers is summarized in **Table 5.3-12**.

TABLE 5.3-12 SVP RELIABILITY STATISTICS FOR ALL CUSTOMER TYPES

Year	ASAI (%)	SAIDI (minutes)	SAIFI (interruptions per customer)	Total Outages (number)
2012	99.994	29.34	0.48	67
2013	99.991	47.33	0.49	69
2014	99.989	56.6	0.48	80
2015	99.986	73.96	0.59	123
2016	99.993	36.29	0.5	123
2017	99.979	109.08	1.03	195
2018	99.992	42.61	0.41	132

Notes:
ASAI (%): Average Service Availability Index - (customer minutes available / total customer minutes, as a %).
SAIDI (minutes): System Average Interruption Duration Index - (average minutes interrupted per customer for all customer).
SAIFI (number): System Average Interruption Frequency Index - (number of interruptions per customer for all customers)
Source: SVP 2018a.

The proposed MCDC would be a large customer that would receive better-than-average reliability compared to all SVP customers by including a dedicated onsite substation that would be directly served by SVP's 60 kV system. Staff reviewed the frequency and duration of known data center customers' outages as provided by SVP (CEC 2019a) to discern how redundant features allow SVP's system to provide greater reliability to data centers when compared with average SVP customers.

That data indicates that the likelihood of an outage on SVP's looped 60 kV system that forces emergency operation of a data center's standby generators would be "extremely rare" (CEC 2019a). Project-specific design factors include the site-specific substation that would connect MCDC to the SVP looped 60 kV system, a limited number of commercial customers on the looped 60 kV system, redundant transformers to supply MCDC, and MCDC's proposed uninterruptible power supply (UPS) battery system to carry critical loads during short-term electric transients.

As shown in Appendix B, staff obtained information showing the historical frequency of power outages to data centers in the SVP service territory, rather than to all of SVP's electric customers. The Record of Conversation (ROC) included a summary of the past 10 years of operating the SVP system, beginning with 2009. Between December 6, 2012 and August 2, 2019, there were a total of 31 "outages" on some part of SVP's 60-kV lines that provide electrical power to the 12-kV distribution system that feeds power to data centers and other customers. Of these 31 outages on the 60-kV system, only two of them actually interrupted service to any data centers. These customers are all served by a distribution system which includes "looped" lines that can provide alternate flow paths for power flow to data centers. Thus, in general, it

takes more than one 60-kV system path failure to cause a power outage at a data center.

TABLE 5.3-13 OUTAGES KNOWN TO TRIGGER DATA CENTER EMERGENCY OPERATIONS

Date of Outage	Number of Data Centers Experiencing Interruption	Duration of Each Data Center Outage (minutes)	Total Data Center-Minutes Interrupted (per event)	Data Center Minutes Interrupted per Interruption (minutes)
May 28/29, 2016	2	443	886	156
Dec 2, 2016	4	12	48	
Total	**6**	---	**934**	

Notes:
Data Center Minutes Interrupted per Interruption calculated by dividing total of data center-minutes interrupted by number of interruptions.
Sources: SVP 2018a; CEC 2019a

One of the data center outages occurred on May 28/29, 2016 (CEC 2019b, Table 2); the interruption lasted for 7 hours and 23 minutes and forced two data centers into emergency operations (CEC 2019a). The other data center outage occurred on December 2, 2016 and lasted for 12 minutes, forcing four data centers into emergency operations. These two power outages are summarized in **Table 5.3-13**.

Using terms equivalent to those of **Table 5.3-12** (of total minutes of outages divided by minutes of total service provided), conversations with SVP confirmed that data centers have experienced greater reliability than customers have overall (CEC 2019a). Over the same seven year time span as shown in **Table 5.3-12**, the existing data centers in SVP territory have an ASAI of greater than 99.999% (compared to an average of 99.989% for all customers), for a data center outage rate of less than 0.001% of data center customer minutes.

Frequency of Data Center Power Outages

Electricity for the Mission College Data Center (MCDC) would be supplied via a new Freedom Circle Junction (SVP Nomenclature) constructed on the project site, connecting through SVP's 60 kV Northeast Loop (NE Loop). The proposed MCDC substation would include a four-bay 60kV Junction consisting of four transformers that would straddle a parcel line dividing the Junction in half. The 60 kV NE Loop is fed from both the Northern Receiving Station (NRS) and Kifer Receiving Station (KRS). Both NRS and KRS are 115/60 kV receiving stations and each has two 115/60 kV transformers for 100 percent redundancy and reliability. Currently, the loads on the NE Loop can be fully supplied through either receiving station. Thus, the NE Loop has equivalent reliability to other loops on the SVP system. Please see the **Project Overview** section for more details.

Information from SVP, and summarized in **Table 5.3-13,** indicates that six data center customer interruptions occurred since 2009 (CEC 2019a), for an average of less than one data center outage per year (six data center interruptions over ten years). This implies a chance of 6-out-of-10 or 60%, that one data center somewhere across SVP's entire territory could experience an outage in any given year. SVP indicates that there were 37 [13] operating data centers in the service territory at the time of the Record of Conversation (CEC 2019a), and that they connected to five different loops within the SVP territory, which minimizes the potential that more than one data center would experience simultaneous outage. The combined probability of any one given data center, like MCDC, to experience an outage would be the product of 60% (chance of outage for any data center within SVP) times the 1-out-of-37 (2.7%) chance of any one data center experiencing the outage. Therefore, out of the 37 or more data centers historically served by SVP, the probability of a given facility (such as MCDC) experiencing an outage in a given year has historically been 60% times 2.7%, or 1.6% probability of an outage per year. Alternatively, this could be expressed as a 98.4% probability that any given data center would *not* experience an outage during any given year.

With the limited history and details available, staff is unable to refine its estimate of the likelihood of MCBGF operating during a SVP outage. It is worth noting that all data center outages occurred in the same year, 2016. Of the 10 years reviewed, only 1 year had *any* data center outages, and 9 of the 10 years had *no* outages. Staff has no reason expect that future reliability would be worse than the past.

Duration of Data Center Power Outages

Historical outage data is limited to only two transmission line outages that affected a data center served by SVP 60-KV lines, one of 12 minutes duration and affecting four data centers, and one of 443 minutes duration affecting 2 data centers. The weighted average duration of data center outages that have occurred in SVP territory since 2009 as shown in in **Table 5.3-13** was about 156 minutes or 2.6 hours per outage. As discussed below, outage durations can reasonably be expected to be driven down in the future. Any potential ambient air impacts from emergency operations would thus be expected to be of short duration.

Based on discussions with SVP, outages are always reviewed for root cause (CEC 2019a), and data center customers and SVP can be expected to implement preventative measures to ensure that reliability consistently improves over time, with both outage frequency and outage duration becoming less in the future.

13 Recent information from SVP indicates that there were up to 49 data centers during this period in the SVP service territory. See Appendix B of this Initial Study. It is likely that naming conventions and how customers secure server bays within data centers, a single data center may show up in SVPs accounting as two or more data centers.

With the high reliability of the SVP system as shown in **Table 5.3-12** and **Table 5.3-13**, emergency operation of the MCBGF's standby generators would remain speculative due to the infrequent, irregular, and unplanned nature of outages. It is impossible to predict how frequently emergency operation of the backup standby generators could occur, and should an emergency operation occur, how long it would last, at what power demand level, or even how many facilities would be affected. Although emergency operation of the standby generators due to an electrical outage is reasonably foreseeable, based upon historical SVP data, such operation would be expected to be very infrequent and of short duration. Therefore, it would be speculative to assign any level of certainty to any particular emergency-use scenario.

Air Quality Impacts During Emergency Operations

The air quality impacts of emergency operations are generally exempted from modelling by air districts in their permitting evaluations, and such is the practice of BAAQMD, in whose jurisdiction MCBGF would be located. Guidelines from US EPA and local air districts regarding permit evaluations generally do not require air quality impact analysis of emissions that would occur infrequently, be highly intermittent and unpredictable, or be triggered by an emergency.

Permitting of emissions from routine or regularly scheduled activities such as readiness testing and maintenance of emergency engines are subject to impacts analyses. The impact analysis at MCBGF for the proposed readiness testing and maintenance was provided earlier in this air quality analysis.

The BAAQMD regulation on stationary internal combustion engines (Regulation 9, Rule 8, section 231.5) defines emergency use as "the use of an emergency standby or low usage engine in the event of [an] unforeseeable failure of [the] regular electric power supply. Emergencies are therefore, unplanned, uncontrolled, infrequent, and unlikely." Additionally, BAAQMD Regulation 9, Rule 8, section 237 defines unforeseeable as "not able to be reasonably anticipated and demonstrated by the owner or operator to the satisfaction of the Air Pollution Control Officer to have been beyond the reasonable control of the owner or operator."

The BAAQMD and other air districts and permitting agencies routinely conduct air quality impact analyses (called AQIAs) when evaluating projects involving stationary air pollution sources. For emergency-use-only equipment, the 35 California local air district rules typically do not require them to include emergency operations in their AQIA. Some air districts place a limit of 200 hours of emergency operation, while other agencies rely on the ARB Air Toxic Control Measure (ATCM), which allows unlimited emergency operation:

1. ARB's ATCM allows for 50 to 100 hours per year for readiness testing and maintenance and includes unlimited hours for emergency operations.

   The emission limitations in the ATCM are different depending on whether an engine is used as an emergency standby engine (i.e., used only during emergencies such as an electrical outage, flood, or fire) or as a prime engine. Emergency standby engines, since they typically operate no more than 20 to 50 hours a year, have different standards than prime engines, which operate hundreds to thousands of hours per year. The ATCM limits the number of hours an emergency standby engine can operate for maintenance and testing purposes to no more than 50 to 100 hours per year. The ATCM does not limit emergency use hours (ARB 2010).

2. BAAQMD uses the ARB's ATCM and allows 50 hours of readiness testing and maintenance and unlimited hours of emergency operations. In some permits, the engineering evaluations resulted in fewer than 50 hours of testing following the ARB's ATCM requirements; however, the applicant requested those limitations at the time of permitting.

3. South Coast Air Quality Management District (SCAQMD) Rule 1304 specifically allows their Executive Officer to exempt both AQIA modeling of emergency standby equipment and the requirement for such equipment to obtain emissions offsets, as long as this equipment does not operate more than 200 hours per year. In addition, SCAQMD Rule 1401 exempts such equipment from an evaluation of toxic air contaminants during an emergency.

4. Sacramento AQMD published guidance effective January 1, 2012, that stated how they would evaluate emergency operations of emergency generators in a Policy and Procedures document titled "NO_2 Modeling for Intermittent Operating Units". They estimated that for facilities that would operate only 50 to 200 hours per year, there was only a 0.57 to 2.34 percent chance of having a peak project impact during the same time as peak background concentrations. The guidance document concluded that there was therefore no need to conduct an AQIA for such facilities for permitting purposes.

5. San Joaquin Valley (SJV) APCD's Rule 2201 (Part 4.6.2) also specifically exempts emergency standby equipment that operates no more than 200 hours per year from the requirement to obtain offsets. This district also developed guidance for evaluating emergency operations of emergency equipment located at a permitted facility and this guidance mirrors the guidance described above that was developed by Sacramento Metropolitan AQMD (SJVAPCD 2011).

6. The U.S. Environmental Protection Agency (US EPA) provides guidance on their requirements for evaluating intermittent facility operations under New Source

Reviews in their *Guideline on Air Quality Models*. Additionally, a March 1, 2011 guidance memorandum from US EPA states that modeling intermittent emissions units, such as emergency generators, is a "major challenge" and is one of the reasons for their providing guidance on how to evaluate intermittent operations. This document emphasizes that there is sufficient discretion within the existing guidelines for reviewing authorities to not include intermittent emissions from emergency generators in compliance demonstrations.

The Code of Federal Regulations, 40 CFR 52.21(b)(23), generally calls for an AQIA if a project's new or modified emissions are over 40 tons/year of NOx. MCBGF would have to perform readiness tests and maintenance for more than the estimated 50 hours at full load before this requirement would be triggered.

Based on staff's review of air quality agency practices summarized above, staff concludes that emergency operations are too infrequent and unable to be reliably evaluated for ambient air quality impacts. Staff takes into consideration: the low likelihood of emergency operation occurring and the intermittency of emergency equipment operating for emergency purposes; the expectation that these standby generators would run only a few hours during emergencies; and the unlikelihood that emergency emissions would occur during the same time as a peak background concentrations. Staff's review of the guidance suggests that modeling to evaluate ambient air quality impacts for criteria pollutants, specifically for the 1-hour NO_2 standard, due to a hypothetical emergency scenario, is not warranted. As of the time of publication of this initial study, staff has not received any contrary guidance from any air quality agency.

Due to the number of factors that need to be considered, using an air quality model to evaluate ambient air quality impacts during emergency operations would require unnecessary speculation. Even if this modeling were performed, it is unclear what one would do with the resulting numbers. Ambient air quality monitoring data collected during extreme events are normally flagged as being "collected during extreme events" and are not used to determine compliance with ambient air quality standards. Thus, staff believes that none of the standards or thresholds would be used to evaluate air quality impacts during an emergency. Therefore, even if computer-modeled impacts are relatively high, one could not assert that they show "an exceedance" of either an ambient air quality standard or a threshold meant to measure compliance with such a standard.

For permitting purposes, air quality agencies normally do not consider emergency operations in analyzing whether a project's potential air emissions are cumulatively considerable. This is for several reasons, including that such events are too infrequent and modeling too imprecise to provide sufficient information on which to reach a conclusion. This is true for a facility with one potential point source, and even more true for a facility such as MCDC with 45 potential point sources and innumerable

possible configurations of source operation, meteorological conditions, operating load point and background concentrations.

Emergency operation would be very infrequent, if it occurs at all. SVP, which would provide grid power to the facility, provides an average service availability to all customers of at least 99.979 percent, according to **Table 5.3-12**, meaning that the need for the MCBGF to provide emergency power would be very low. Emergency operations would certainly not occur routinely during the lifetime of the facility, and the reliability of electricity service from SVP ensures that the majority of years would most likely see no emergency operation at all.

Based on information provided, staff concludes that, due to the high reliability of the SVP transmission system, MCBGF would rarely enter into emergency operations. Accordingly, the potential for any adverse impacts to ambient air quality concentrations would be a very low probability event.

Thus, staff concludes that assessing the impacts of emergency operation of the standby generators would be speculative due to the infrequent, irregular, and unplanned nature of outages. In combination with the high reliability of the SVP system as shown in **Table 5.3-12**, the project's emergency operation would be unlikely to expose sensitive receptors to substantial concentrations of criteria air pollutants.

Standby Generator Emergency Operation Health Risk Assessment (HRA)

This assessment also addresses the health impacts of toxic air contaminants emitted as a result of emergency operations. As described above, the health risk assessment of cancer risk, chronic non-cancer, and acute non-cancer all were evaluated assuming a total of 50 hours of operation per year for all 45 generators operating simultaneously.

The applicant's analysis of acute TAC impacts, shown in **Table 5.3-10** includes all standby generators assuming operating for 50 hours per year. For simplicity in conducting this TAC assessment, the engines are assumed to operate simultaneously, similar to what might occur during emergency operations. While approximating what might occur during an emergency operation (i.e., simultaneous operations), it still may not represent the undefined emergency. That analysis showed the acute impacts to be below the relevant significance thresholds. No additional impact analysis is required to evaluate emergency operations for acute risk because the total hours for readiness testing and maintenance is expected to be less than 12 hours per year (Mission College 2020a, TN# 231960, page 9) and would be limited by the air permit issued by the local district. Therefore, adding emergency use is not likely to lead to more than the 50 hours per year of total operation already analyzed. Therefore, the project is expected to have less than significant acute health risks.

The chronic health risks determined for project construction and readiness testing and maintenance, shown in **Tables 5.3-10** are substantially below the significance threshold, and no reasonable emergency operation scenario would change that finding. Therefore, the project would also have less than significant chronic health risks.

Required Mitigation Measures: None.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The BAAQMD states that, while offensive odors rarely cause direct health impacts or any physical harm, they still can be very unpleasant and lead to considerable distress among the public, often generating citizen complaints to local governments and the BAAQMD (BAAQMD 2017b). Any project with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact. Odor impacts on residential areas and other sensitive receptors warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Construction

Less Than Significant Impact. Potential odor sources during demolition and construction activities include diesel exhaust from heavy-duty equipment. Odors from demolition and construction activities near existing receptors would be temporary in nature and dissipate as a function of distance. Accordingly, construction/demolition of the project is not expected to result in odor impacts that would exceed BAAQMD's odor thresholds.

Fugitive dust emissions can also create a nuisance that can cause adverse effects. The project is proposing to comply with the BAAQMD construction fugitive dust control BMPs and so should not have substantial fugitive dust emissions during construction that could adversely affect a substantial number of people.

Therefore, during construction/demolition the project would not result in other emissions that could adversely affect a substantial number of people and would have less than significant impacts.

Readiness Testing and Maintenance, and Emergency Operation

Less Than Significant Impact. Potential odor sources from project testing and maintenance along with emergency operation would include diesel exhaust from standby generator readiness testing and maintenance, trash pick-up and other heavy-duty delivery vehicles, and the occasional use of architectural coatings during routine maintenance. When compared to existing odor sources near the project site, which

include heavy and light industrial uses, odor impacts from project testing and maintenance along with emergency operations would be similar.

Under the BAAQMD CEQA guidelines determining the significance of potential odor impacts involves a two-step process. First, determine whether the project would result in an odor source and receptors being located within the distances indicated in **Table 5.3-14**. This table also lists types of facilities known to emit objectionable odors. Second, if the proposed project would result in an odor source and receptors being located closer than the screening level distances indicated in **Table 5.3-14**, a more detailed analysis should be conducted, as described in the BAAQMD 2017 CEQA Guidelines (BAAQMD 2017b).

TABLE 5.3-14 PROJECT SCREENING TRIGGER LEVELS FOR POTENTIAL ODOR SOURCES

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles

Source: BAAQMD 2017b, Table 3-3.

The project is not an odor source listed in **Table 5.3-13** and this project type is not known to cause any significant odor impacts (Mission College 2019b, Air Quality Impact Assessment page 4-11). A further evaluation of this facility is not warranted by any local conditions or special circumstances. Therefore, staff finds that the project would not likely create objectionable odors affecting a substantial number of people.

The project would have no ongoing fugitive dust emissions sources once it is built and operating. Therefore, nuisance dust impacts would not occur during readiness testing and maintenance or any emergency operation. During testing and maintenance along with emergency operation, the project would not result in other emissions that could adversely affect a substantial number of people, and would have less than significant impacts.

Required Mitigation Measures: None.

5.3.4 References

ARB 1998 - California Air Resources Board (ARB). 1998. Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant. Appendix III, Part A, Exposure Assessment. June 1998. Accessed March, 2020. Available online at: https://ww3.arb.ca.gov/toxics/dieseltac/part_a.pdf

ARB 2007 - California Air Resources Board (ARB). 2007. Review of the California Ambient Air Quality Standard For Nitrogen Dioxide. Accessed January, 2020. Available online at: https://ww3.arb.ca.gov/research/aaqs/no2-rs/no2staff.pdf

ARB 2010 - California Air Resources Board (ARB). 2010. Staff Report: Initial Statement of Reasons For Proposed Rulemaking. Accessed January, 2020. Available online at: https://ww3.arb.ca.gov/regact/2010/atcm2010/atcmisor.pdf

ARB 2013 - California Air Resources Board (ARB). The California Almanac of Emissions and Air Quality -2013 Edition. Accessed January 2020. Available online at: https://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm

ARB 2016 - California Air Resources Board (ARB). Ambient Air Quality Standards, dated 5/4/2016. Available online at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

ARB 2019a - California Air Resources Board (ARB). Area Designations Maps / State and National. Accessed January 2020. Available online at: https://www.arb.ca.gov/desig/adm/adm.htm

ARB 2019b - California Air Resources Board (ARB). Air Quality Data Statistics Top 4 Summary. Accessed January 2020. Available online at: https://www.arb.ca.gov/adam/topfour/topfour1.php

ARB 2019c - California Air Resources Board (ARB). 2019. Overview: Diesel Exhaust & Health. Available online at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health

BAAQMD 2012 - Bay Area Air Quality Management District (BAAQMD). 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

BAAQMD 2017a - Bay Area Air Quality Management District (BAAQMD). Final 2017 Clean Air Plan, Adopted April 19, 2017. Accessed January 2020. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf

BAAQMD 2017b - Bay Area Air Quality Management District (BAAQMD). California Environmental Quality Act, Air Quality Guidelines. Updated May 2017. Accessed March 2020. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

BAAQMD 2019a - Bay Area Air Quality Management District (BAAQMD). Air Quality Standards and Attainment Status. Accessed January 2020. Available online at: http://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status

BAAQMD 2019b - Bay Area Air Quality Management District (BAAQMD). Annual Bay Area Air Quality Summaries. Accessed January 2020. Available online at: http://www.baaqmd.gov/about-air-quality/air-quality-summaries

BAAQMD 2019c - Bay Area Air Quality Management District (BAAQMD). Calculating Potential to Emit for Emergency Backup Power Generators. Dated June 3, 2019. Available online at: http://www.baaqmd.gov/~/media/files/engineering/policy_and_procedures/banking-and-offsets/calculating-pte-for-emergency-generators-06032019-pdf

BAAQMD 2019d - Bay Area Air Quality Management District (BAAQMD). Rule and Regulations. Accessed March 2020. Available online at: http://www.baaqmd.gov/rules-and-compliance/current-rules

CDOC 2011 - California Department of Conservation (CDOC). Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California, 2011. Accessed January 2020. Available online at: https://www.conservation.ca.gov/cgs/Pages/HazardousMinerals/asbestos2.aspx

CEC 2019a - California Energy Commission (CEC). (TN 231331). Record of Conversation with Silicon Valley Power: responses to CEC staff questions about historical outages, dated December 27, 2019. Available online at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=231331&DocumentContentId=63080

CEC 2019b - California Energy Commission (CEC). (TN 231330). Data clarification questions and responses for the Mclaren Backup Generation Facility, dated December 27, 2019. Available online at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=231330&DocumentContentId=63079

CEC 2019c - California Energy Commission (CEC). (TN 230991). Report of Conversation with BAAQMD regarding NOx Offset Ratio, dated December 4, 2019. Available online at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=230991&DocumentContentId=62623

CNRA 2018 - California Natural Resources Agency (CNRA). 2018 Amendments and Additions to the State CEQA Guidelines. Accessed January 2020. Available online at: http://resources.ca.gov/ceqa/

Mission College 2019a - Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2019b - Application for Small Power Plant Exemption: Mission College Data Center, Appendices A-C, dated November 2019. (TN 230844-47). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020a - Response to CEC staff data request set 1 (1-59), Mission College Backup Generating Facility (19-SPPE-05), February 2020 (TN 231960 and 232047). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

NOAA 2019 - National Oceanic and Atmospheric Administration (NOAA). The Impact of Wildfires on Climate and Air Quality, An emerging focus of the NOAA ESRL Chemical Sciences Division. Accessed January 2020. Available online at: https://www.esrl.noaa.gov/csd/factsheets/csdWildfiresFIREX.pdf

OEHHA 2015 - Office of Environmental Health Hazard Assessment (OEHHA). Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments, March 6, 2015. Available online at: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

OEHHA 2018 - Office of Environmental Health Hazard Assessment and California Air Resources Board (OEHHA & ARB). 2018. Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. Available online at: https://ww3.arb.ca.gov/toxics/healthval/healthval.htm

OEHHA 2019 - Office of Environmental Health Hazard Assessment (OEHHA). Toxic Air Contaminants. Accessed January 2020. Available online at: https://oehha.ca.gov/air/toxic-air-contaminants

SVP 2018a - Silicon Valley Power (SVP). Final 2018 Integrated Resource Plan for Silicon Valley Power. Adopted by the Santa Clara City Council, November 27, 2018. Available online at: http://www.siliconvalleypower.com/svp-and-community/about-svp/integrated-resource-plan

SVP 2019 - Silicon Valley Power (SVP). Utility Fact Sheet. Accessed January 2020. Available online at: http://www.siliconvalleypower.com/svp-and-community/about-svp/utility-fact-sheet

US EPA 2003 - United States Environmental Protection Agency (US EPA). Diesel engine exhaust. Available online at: http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showQuickView&substance_nmbr=0642

US EPA 2011a - United States Environmental Protection Agency (US EPA). Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard. March 2011. Available online at: https://www3.epa.gov/ttn/scram/guidance/clarification/Additional_Clarifications_AppendixW_Hourly-NO2-NAAQS_FINAL_03-01-2011.pdf

US EPA 2011b - United States Environmental Protection Agency (US EPA). Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard. March 2011. Available online at: https://www3.epa.gov/ttn/scram/guidance/clarification/Additional_Clarifications_AppendixW_Hourly-NO2-NAAQS_FINAL_03-01-2011.pdf

US EPA 2011c - United States Environmental Protection Agency (US EPA). Air Quality Designations for the 2008 Lead (Pb) National Ambient Air Quality Standards. Accessed January 2020. Available online at: https://www.govinfo.gov/content/pkg/FR-2011-11-22/pdf/2011-29460.pdf

US EPA 2013 - United States Environmental Protection Agency (US EPA). Determination of Attainment for the San Francisco Bay Area Nonattainment Area for the 2006 Fine Particle Standard; California; Determination Regarding Applicability of Clean Air Act Requirements. Accessed January 2020. Available online at: https://www.federalregister.gov/documents/2013/01/09/2013-00170/determination-of-attainment-for-the-san-francisco-bay-area-nonattainment-area-for-the-2006-fine

US EPA 2014 - United States Environmental Protection Agency (US EPA). EPA Finalizes Initial Area Designations for the 2012 National Air Quality Standard for Fine Particles - Dec 2014. Accessed January 2020. Available online at: https://www.epa.gov/particle-pollution-designations/epa-finalizes-initial-area-designations-2012-national-air-quality

US EPA 2016 - United States Environmental Protection Agency (US EPA). NO_2/NO_x In-Stack Ratio (ISR) Database. Last updated on 9/27/2016. Accessed January 2020. Available online at: https://www3.epa.gov/scram001/no2_isr_database.htm

US EPA 2017 - United States Environmental Protection Agency (US EPA). 2017. Guideline on Air Quality Models. 40 Code of Federal Regulations (CFR) Part 51, Appendix W. January. Accessed January 2020. Available online at: https://www3.epa.gov/ttn/scram/appendix_w-2016.htm

US EPA 2018 - United States Environmental Protection Agency (US EPA). Air Quality Designations for the 2010 Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard—Round 3. Accessed January 2020. Available online at: https://www.govinfo.gov/content/pkg/FR-2018-01-09/pdf/2017-28423.pdf

US EPA 2019 - United States Environmental Protection Agency (US EPA). Outdoor Air Quality Data, Monitor Values Report. Accessed January 2020. Available online at: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report

5.4 Biological Resources

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to biological resources that occur in the project area.

BIOLOGICAL RESOURCES **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

Environmental checklist established by CEQA Guidelines, Appendix G.

5.4.1 Setting

The 15.78-acre project site in the City of Santa Clara is within an urbanized industrial zone, surrounded by commercial/industrial use buildings. The site was previously fully developed and the buildings located on the project property were used for electrical component manufacturing and office space. The majority of the vegetation on the property consists of non-native trees and shrubs such as Eucalyptus (*Eucalyptus sp.*), London plane tree (*Platanus x acerifolia*), Crepe Myrtle (*Lagerstromea indica*), Chinese pistache (*Pistacia chinensis*), and European white birch (*Betula pendula*). The San Tomas

Aquino Creek corridor, including the streambed and border trails defining the tops of bank, is located along the west boundary of the project site. The creek provides habitat for local wildlife and walking, running, and biking opportunities for local workers and residents. The Small Power Plant Exemption (SPPE) application states all land disturbance would avoid the San Tomas Aquino Creek and banks, including a row of mature Eucalyptus trees between the existing parking lot and the top of the west bank (Mission College 2019a).

Regulatory Background

Federal

Endangered Species Act (16 U.S.C. § 1531 et seq. and 50 C.F.R. part 17.1 et seq.). The Endangered Species Act (ESA) designates and provides for protection of threatened and endangered plant and animal species, and their critical habitat. "Take" of federally listed species as defined in the ESA is prohibited without incidental take authorization, which may be obtained through Section 7 consultation (between federal agencies) or a Section 10 Habitat Conservation Plan. The administering agencies are the United States Fish and Wildlife Service (USFWS), the National Oceanic Atmospheric Administration (NOAA), and National Marine Fisheries Service.

Migratory Bird Treaty Act (16 U.S.C. §§ 703–711). The Migratory Bird Treaty Act (MBTA) makes it unlawful to take or possess any migratory nongame bird (or any part of such migratory nongame bird including nests with viable eggs). The administering agency is the USFWS.

Clean Water Act Sections 401 and 404. The Clean Water Act (CWA) (33 U.S.C. §§ 1251–1376) requires the permitting and monitoring of all discharges to surface water bodies. Section 404 (33 U.S.C. § 1344) requires a permit from the United States Army Corps of Engineers (USACE) for a discharge from dredged or fill materials into a water of the United States, including wetlands. Section 401 (33 U.S.C. § 1341) requires a permit from the regional water quality control board for the discharge of pollutants.

Rivers and Harbors Act Section 10. Section 10 of the Rivers and Harbors Act of 1899 requires authorization from USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, locations, or condition of the water body. This applies to any dredging or disposal of dredging materials, excavation, filling, rechannelization, or any other modification of a navigable water of the United States and applies to all structures.

State

California Endangered Species Act (Fish and G. Code, §§ 2050–2098). The California Endangered Species Act (CESA) of 1984 protects California's rare, threatened, and endangered species. CESA allows California Department of Fish and Wildlife (CDFW)

to issue an incidental take permit for a species listed as candidate, threatened, or endangered only if that take is incidental to otherwise lawful activities and specific criteria are met. These criteria are listed in Title 14, California Code of Regulations, section 783.4, subdivisions (a) and (b). For purposes of CESA, "take" means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (Fish and G. Code, § 86).

California Fish and Game Code Section 3503. This section makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

California Fish and Game Code Section 3513. This section protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame birds. The administering agency is CDFW.

California Fish and Game Code Sections 3511, 4700, 5050, and 5515. These sections designate certain species as fully protected and prohibit the take of such species or their habitat unless for scientific purposes (see also Cal. Code Regs., tit. 14, § 670.7). Incidental take of fully protected species may also be authorized in a Natural Community Conservation Plan (NCCP) (Fish and G. Code, § 2835).

Local

City of Santa Clara 2010 – 2035 General Plan. Goals and policies specific to the City of Santa Clara General Plan to protect and preserve the city's natural habitat and wildlife are described in Chapter 5 Goals and Policies, Section 10 Environmental Quality. These goals and policies are important with respect to the proposed project:

- 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.
- 5.10.1-G1 The protection of fish, wildlife and their habitats, including rare and endangered species.
- 5.10.1-P1 Require environmental review prior to approval of any development with the potential to degrade the habitat of any threatened or endangered species.
- 5.10.1-P2 Work with Santa Clara Valley Water District and require that new development follow the "Guidelines and Standards for Lands Near Streams" to protect streams and riparian habitats.
- 5.10.1-P3 Require preservation of all City-designated heritage trees listed in the Heritage Tree Appendix 8.10 of the General Plan.
- 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.

- 5.10.1-P11 Require use of native plants and wildlife-compatible non-native plants, when feasible, for landscaping on City property.
- 5.10.1-P12 Encourage property owners and landscapers to use native plants and wildlife-compatible nonnative plants, when feasible.

Santa Clara City Code. Chapter 12.35: Trees and Shrubs, Sections .010, .020, .030, .040, .050. These sections of the Santa Clara City Code specify how to proceed with certain tree and shrub issues, such as removal, alteration, misuse of trees and if trees become hazardous to public safety. Here is one section most applicable to the proposed project:

- 12.35.020 Alteration or removal – Permit required. No tree, plant or shrub planted or growing in the streets or public places of the City shall be altered or removed without obtaining a written permit from the superintendent of streets. No person without such authorization shall trench around or alongside of any such tree, plant or shrub with the intent of cutting the roots thereof or otherwise damaging the same.

5.4.2 Applicant Proposed Measures

The applicant proposes to implement the following mitigation measures in the project design ("PD" measures) that are intended to avoid and reduce potential impacts to biological resources to less than significant (Mission College 2019a, pages 22 and 23).

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.[1]
- The applicant shall submit a report indicating the result of the survey and any

1 In Response to Data Requests, Set 1 the applicant confirmed a preconstruction survey for nesting raptors on the project site and the surrounding 250 foot radius was conducted January 6, 2020, after the application for SPPE was submitted (Mission College 2020a).

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.[2]

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.

5.4.3 Environmental Impacts and Mitigation Measures

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

CEC staff conducted a California Natural Diversity Database (CNDDB) search for special-status species with a nine quad search and considered this along with the applicant's search within a two-mile radius of the project site (CNDDB 2019, 2020). A

2 In Response to Data Requests, Set 2 the applicant confirmed an updated arborist report and tree removal plan was prepared in December 2019 and submitted for approval to the City of Santa Clara, after the application for SPPE was submitted. A Tree Removal Permit was issued by the city on January 20, 2020 concurrent with a demolition permit to remove existing site buildings (Mission College 2020b).

discussion of special-status species with recorded occurrences on the CNDDB search is provided below.

Western burrowing owls (*Athene cunicularia*), a California species of special concern, are known to occur and breed within the two-mile radius of the proposed project site. Their presence has been consistent in the last decade and they have recently been spotted the last several years as recorded in the Santa Clara Valley Audubon Society (SCVAS) annual bird list count. The project site lacks the natural habitat, grasslands, and ruderal habitat with ground squirrel burrows that burrowing owls prefer, however they sometimes will burrow in man-made structures like pipe culverts. Although unlikely, since their presence is known in the area there is a potential for burrowing owl to occur on the site.

The yellow rail (*Coturnicops noveboracensis*), California black rail (*Laterallus jamaicensis coturniculus*), and tricolored blackbird (*Agelaius tricolor*) are listed birds that live within marshland, wet meadows, and the latter in wetland habitat. The yellow rail is a California species of special concern. Historical records indicate its presence in the City of Santa Clara and the SCVAS lists sighting them within the past several years. The California black rail, a state-listed threatened and fully protected species, was documented on CNDDB as having occurred in the area as recently as 2016. As recently as March 2019, three California black rail were also sighted just outside the two-mile radius from the project site (SCVAS). The most recent record of tricolored blackbird, a state-listed threatened bird, in the CNDDB in the project area was for 2015 and again the SCVAS has sighted this species in the last several years. However, none of these species are expected to occur on the project site due to its urbanized condition and lack of surface waters, so no impacts are anticipated.

Historically the Western pond turtle (*Emys marmorata*), a state species of special concern, has occurred within the two-mile radius of the project site but is presumed extant within this range in the City of Santa Clara as of 2017. Western pond turtles are found in aquatic habitats in and near ponds, creeks, and rivers. During the breeding season, March–June, turtles may travel over 1500 feet away from their aquatic habitat to lay eggs and sometimes even further than this when they are overwintering (CDFW 2014). The project site is adjacent to the San Tomas Aquino Creek corridor where there is potential for Western pond turtles to be found as they could travel anywhere along this corridor. However, the project site is fully developed and the urbanized nature of the site and surrounding area makes it less likely that the turtles would travel to the project site. Thus, Western pond turtles are not expected to occur on the project site and no impacts are anticipated.

The Central California Coast Distinct Population Segment (DPS) Steelhead population (*Oncorhynchus mykiss irideus pop.* 8), which is a federally threatened species, also currently is known to occur within the Guadalupe River, located 2 miles from the project. Steelhead are born in freshwater migrating to the ocean and returning, possibly multiple times, to spawn in freshwater again. In California, spawning typically

occurs between December to April (Calfish 2019). There is potential for steelhead to occur in San Tomas Aquino Creek. However, lack of aquatic habitat on the actual project site means there are no expected impacts to this species.

The other special-status species in the region, Alameda song sparrow (*Melospiza melodia pusillula*), California tiger salamander (*Ambystoma californiense*), and Hoover's button-celery (*Eryngium aristulatum var. hooveri*) are not expected on the project site or immediate area due to the lack of suitable habitat and the developed condition of the project site.

Construction

Special-Status Species—Nesting Birds

Less Than Significant With Mitigation Incorporated. If construction occurs during the nesting bird season from February to August, it is possible for construction activities to affect nesting and migratory birds that are attracted to the nearby San Tomas Aquino Creek and other, urban vegetated areas on and near the project site. Construction activity near nesting birds is disruptive and sometimes can cause nest abandonment.

The design measure **PD BIO-1** proposed by the applicant to avoid and reduce impacts to nesting birds lacks the elements and scope necessary to ensure potential project impacts on birds protected by the Migratory Bird Treaty Act (MBTA) and Fish and Game codes would be avoided or reduced to less than significant levels. The survey is limited to raptor nests, with timing aligned to construction and removal of trees during the nesting bird season. The survey protocol does not directly address the need for repeat surveys in the event construction activities stops for an extended period of time, nor does it specify any protective measures (such as avoidance buffers) in the event nesting birds covered by the MBTA and Fish and Game codes were to establish on the site during construction.

To ensure impacts to nesting birds are avoided and minimized to less than significant, staff is proposing **MM BIO-1**, which would replace nesting mitigation in **PD BIO-1**, and provide details about survey protocols and best site practices. With adherence to **MM BIO-1** project impacts to nesting birds covered by federal and state laws would be less than significant.

The report requirements to be submitted to the City of Santa Clara for review and approval contained in **PD BIO-1** lacks detail regarding report content. Therefore CEC staff also proposes **MM BIO-2**, which clarifies the degree of detail in the nest survey report(s), which more closely aligns to accepted best practices for preparing avian survey reports.

MM BIO-1 and **MM BIO-2** were agreed to by the applicant (Mission College 2020c).

Special-Status Species—Western Burrowing Owl

Less Than Significant With Mitigation Incorporated. As noted previously, there is the potential for Western burrowing owl, a California species of special concern, to occur on the project site. The project area falls within high potential breeding habitat and is within 1.5 miles of two known Western burrowing owl breeding areas; thus, there is the possibility of burrowing owl presence on the project (SCVHA 2012). Should burrowing owl occupy the project site during construction, impacts to this special-status bird including take through disruption and destruction of active burrows would be considered significant unless mitigation is provided.

PD BIO-1 does not address the potential presence of Western burrowing owl and related best practices for avoidance and impact minimization to this species recommended in guidance prepared by the CDFW (CDFW 2012). To ensure impacts to burrowing owls are mitigated to less than significant levels, staff has included language in **MM BIO-1**, that references the specific measures for Western burrowing owl contained in CDFW 2012.

MM BIO-1: Nesting Bird Avoidance and Minimization Measures. If construction, tree removal, or vegetation clearing occurs during the nesting season (February 1 through August 31), an ornithologist or other qualified biologist shall conduct pre-construction nest survey(s) no more than 14 days prior to the initiation of the aforementioned activities within 500 feet of trees/vegetation. Surveys shall be repeated if project activities are suspended or delayed for more than 14 days during the nesting season. The ornithologist or other qualified biologist (with at least a bachelor's degree in a biological science field and demonstrated field expertise in avian species) shall be approved by the City of Santa Clara. The size of all buffer zones shall initially be a 250-foot radius around the nest of non-raptors and a 500-foot radius around the nest for raptors. Any changes to a buffer zone must be approved by the City of Santa Clara in consultation with California Department of Fish and Wildlife (CDFW). The nests and buffers shall be field checked weekly by the approved ornithologist or other qualified biologist. The approved buffer zone shall be marked in the field with exclusion fencing, within which no construction, tree removal, or vegetation clearing shall commence until the ornithologist or other qualified biologist and the City of Santa Clara to verify that the nest(s) are no longer active. If Western burrowing owl are discovered residing on the project at any time during construction outside the nesting season, then a buffer area shall be established and observed, until the animal can be passively relocated out of the construction area in accord with the CDFW 2012 guidance titled "Staff Report on Burrowing Owl Mitigation" and/or any applicable future guidance.

MM BIO-2: Nesting Bird Survey Report. The qualified biologist shall submit a copy of the pre-construction nest survey report(s) to the City of Santa Clara planning department prior to construction for review and approval. The report(s) shall contain maps showing the location of all nests, species nesting, status of the nest (e.g.

incubation of eggs, feeding of young, near fledging), and the buffer size around each nest. The report shall be provided within 10 days of completing a pre-construction nest survey.

Operation and Maintenance

Less Than Significant Impact. Routine operation of the project's backup diesel generators would result in emissions of oxides of nitrogen (NOx). Nitrogen deposition is the input of NO_X and other pollutants including ammonia (NH_3) and nitric acid (HNO_3), from the atmosphere to the biosphere. Vehicle and industrial emission sources are contributors of NH_3 and HNO_3 along with NO_X. Increased nitrogen deposition in nitrogen poor habitat allows the proliferation of non-native species that crowd out the native species. One approach for quantifying nitrogen deposition is through "critical load." Critical load is defined as the input of a pollutant below which no detrimental ecological effects occur over the long-term.

Several special-status species (California Ridgway's rail, salt marsh common yellowthroat, Alameda song sparrow, salt-marsh wandering shrew, and salt-marsh harvest mouse) occur in northern coastal salt marsh habitat within a 6-mile radius of the project site. Northern coastal salt marsh is considered a sensitive natural community by the California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB 2019, 2020).

Salt marsh habitat has a high tolerance of nitrogen input because of its open nutrient cycle (Pardo et. al. 2011, pg 3071). Critical load has been estimated to be in the range of 30-40 kilograms of nitrogen per hectare per year (kg N/ha/yr) for early successional salt marsh (Bobbink et. al. 2002, pg 96; Bobbink et. al. 2010, pg 47), and 50-100 kg N/ha/yr for intertidal wetlands and 63-400 kg N/ha/yr for intertidal salt marshes (Pardo et. al. 2011, pg 3059).

According to the most currently available data, background nitrogen deposition at the northern coastal salt marsh for 2011 is estimated to be 7.6 kg N/ha/yr (EnviroAtlas 2019) and for 2012 at 11.4 kg N/ha/yr (CMAQ 2019). Staff acquired shapefiles for Community Multiscale Air Quality (CMAQ) modeling-predicted values of annual total deposition and used data from 2012. From the data, staff used the most conservative values to determine impacts to biological resources.

Conservative modeling using AERMOD, performed by CEC staff for similar facilities in Santa Clara (Vantage Data Center at 651 Matthew Street, SC-1 Data Center at 555 Reed Street, and Laurelwood Data Center at 2201 Laurelwood Drive) at comparable distances (approximately 4 to 5.5 miles) from salt marsh habitat, yielded estimated levels of nitrogen deposition of between 0.01 and 0.09 kg N/ha/yr. Nitrogen deposition attributed to the project combined with the background nitrogen values discussed above would be substantially below critical load for salt-marsh habitats. Thus, nitrogen deposition from the project would have a less than significant impact on the habitat

of special-status species (California Ridgway's rail, salt marsh common yellowthroat, Alameda song sparrow, salt-marsh wandering shrew, and salt-marsh harvest mouse).

Required Mitigation Measures: MM BIO-1 and **MM BIO-2**.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The project site and surrounding properties have been heavily developed and historically used for industrial component manufacturing and offices. There are no sensitive habitats present on the project site. However, San Tomas Aquino Creek, an open water riparian area, is located along the west boundary of the project site. As stipulated in the SPPE application and the applicant's response to staff's data requests, all of the project improvements and construction and staging activities would occur outside of the San Tomas Aquino creekbed and banks.

Construction

Less Than Significant Impact. Construction activities would occur primarily on the project site, which has been previously developed and is surrounded by industrial and office park uses. As noted previously, construction and tree removal activities would avoid any surface disturbance of the San Tomas Creek corridor. On-site adherence to discharge requirements for the control of solids and pollutants leaving the construction area, as required in the local National Pollution Discharge Elimination System (NPDES) Permit, would ensure that impacts to natural waterways in riparian habitat are avoided. This includes a Storm Water Pollution Prevention Plan and storm water quality best management practices such as directing runoff into bioswales and percolating retention areas (TN 232246). As such, project construction impacts to the riparian habitat associated with the creek would be less than significant.

Operation and Maintenance

Less Than Significant Impact. The implementation of the NPDES requires Low Impact Development-based storm water treatment controls to treat post-construction storm water runoff intended to maintain or restore the site's natural hydrologic functions, maximizing opportunities for infiltration and evapotranspiration, and using storm water as a resource. It also requires proper installation, operation, and maintenance of storm water treatment measures. Impacts from operation and maintenance of the project would be less than those anticipated during construction for storm water.

Northern coastal salt marsh is the only sensitive natural community within 5 miles of the project known to be sensitive to nitrogen deposition. As stated above, salt marsh habitat has a high tolerance of nitrogen input because of its open nutrient cycle (Pardo et. al. 2011, pg 3071) and thus higher critical load in the range of 30-40 kg N/ha/yr (Bobbink et. al. 2002, pg 96; Bobbink et. al. 2010, pg 47) for early successional salt

marsh, and 50-100 kg N/ha/yr for intertidal wetlands and 63-400 kg N/ha/yr for intertial salt marshes (Pardo et. al. 2011, pg 3059). Current background nitrogen deposition at the northern coastal salt marsh for 2012 is estimated to be 11.4 kg N/ha/yr (CMAQ 2019). Since the nitrogen deposition attributed to the project combined with the background nitrogen would be considerably less than the lowermost critical load of 30-40 kg N/ha/yr for salt marsh, impacts from nitrogen deposition would be less than significant for this sensitive natural community.

Required Mitigation Measures: None.

c. Would the project 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?

There are no federally protected wetlands as defined by Section 404 of the Clean Water Act on the project site. San Tomas Aquino Creek is the nearest body of water under the jurisdiction of the United States Army Corps of Engineers and is the main component of a larger watershed that flows north to Guadalupe Slough eventually draining to South San Francisco Bay. The creek has slow flowing water year round and is contained within an excavated channel with a natural bottom cover consisting of sand, mud, and gravel. A little over 1 mile north from the portion of San Tomas Aquino Creek that borders the project, the creek gradually turns into estuarine waters becoming more influenced by tides and higher ocean salt water content. The nearest estuarine and marine wetlands cover 21.5 acres within Baylands Park just over 2.20 miles north of the project site. These wetlands are adjacent to the deepwater lake and wetlands of Don Edwards San Francisco Bay National Wildlife Refuge.

Construction

Less Than Significant Impact. As noted previously, construction of the project would avoid any surface disturbance at the nearest water feature to the project site–San Tomas Aquino Creek. On-site adherence to discharge requirements for the control of solids and pollutants leaving the construction area, as required in the local National Pollution Discharge Elimination System (NPDES) authorization, would ensure that impacts to natural waterways are avoided.

Operation and Maintenance

Less Than Significant Impact. Impacts from operation and maintenance of the project would be similar to those anticipated during construction. The project would drain to the existing City of Santa Clara storm drain system and to the permanent site improvements including retention swales to prevent overflow of floodwaters onto adjacent properties, ditches, or waterways.

Required Mitigation Measures: None.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

The project is located in an established urbanized area characterized by office and industrial uses. The site and adjacent properties do not support wildlife species or provide natural areas that could serve as corridors for the movement of wildlife. As noted previously, the adjacent San Tomas Aquino Creek supports a variety of wildlife and potentially hosts Central California Coast Distinct Population Segment (DPS) of Steelhead. However, no project improvements or activities would encroach on the creek or its associated riparian corridor.

Construction

Less Than Significant With Mitigation Incorporated. The project would completely avoid any disturbance to San Tomas Aquino Creek and any steelhead that may use the creek for migration or spawning. **MM BIO-1** and **MM BIO-2** require the applicant to conduct pre-construction surveys of suitable habitat areas (as determined by a qualified biologist) for birds covered by the MBTA and the California Fish and Game codes on the site and vicinity before construction. If bird nests or owl burrows are discovered after the start of construction, appropriate non-disturbance buffers would be established and maintained during these activities until such time as the burrow or nest is determined to not be active. With these measures impacts to avian species covered by the MBTA and Fish and Game codes would be avoided or mitigated to less than significant.

Operation and Maintenance

No Impact. The operation and maintenance of the project would not interfere with the movement of any wildlife.

Required Mitigation Measures: MM BIO-1 and **MM BIO-2**.

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

The proposal entails development of an industrial data center and associated backup generators on a Planned Industrial (MP)-zoned property. There is no naturally occurring vegetation existing on the project site, as trees surrounding the site are part of the existing ornamental landscape, along with a strip of grassland and trees lining the western boundary that borders San Tomas Creek. There are no other resources on the site that would be subject to local ordinances protecting biological resources. Due to the lack of natural vegetation and habitats on the site, the project would not conflict with any conservation land use goals or policies protecting natural habitats as

mentioned in the City of Santa Clara General Plan. However, there are sections of the city's general plan that protect trees.

Construction

Less Than Significant Impact. Prior to the commencement of demolition activities under a city-issued demoltion permit, a total of 251 trees were on the project site. Two hundred twenty three of these trees are proposed for removal according to the updated Arborist Report and Landscape Plan provided in the applicant's Response to Data Request Set 2 (TN 232246, Attachments BIO DR-60 and 61). The Landscape Plan proposes 236 replacement trees that would be a minimum 36-inch box specimens. The City of Santa Clara found these plans to be consistent with city requirements, and a Tree Removal Permit was issued on January 20, 2020. The preserved and new trees proposed on the Landscape Plan will be a required element of the project as part of the city's Architectural Review process.

Operation and Maintenance

No Impact. Once constructed, there is no indication that operation and maintenance of the project would require the removal of additional trees. However, if removal of trees becomes necessary in the future, the site owner would be required to comply with local policies and ordinances regarding the protection/replacement of trees. Operating the data center and maintaining the buildings and on-site ornamental landscaping would involve levels of intrusion and disturbance similar to or less than that at office and industrial uses in the vicinity. Thus, operation of the project would not conflict with local policies and ordinances protecting biological resources.

Required Mitigation Measures: None.

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

The project and surrounding area is influenced by the Santa Clara Valley Habitat Plan (SCVHP). The SCVHP is a conservation plan adopted in 2012 for the protection and recovery of resources over a 519,000-acre study area encompassing the majority of land in Santa Clara County. However, the City of Santa Clara is not a plan participant or permitee to the SCVHP. The project site falls outside of the study area of the SCVHP, but the project site is within a 48,464-acre *extended study area* [emphasis added] for Western burrowing owl conservation that includes the northern edge of the county in portions of the cities of San José, Santa Clara, Mountain View, Milpitas, and Sunnyvale. The extended study area was created in recognition that in the 1990s nearly all of the burrowing owl population and breeding pairs in Santa Clara County[3] were concentrated on urban open spaces (airfields, parks and golf courses) and preserves

3 It was estimated that 75 percent of the San Francisco Bay area population of burrowing owl occurred in Santa Clara County (SCVHA 2012, Appendix M, page M-1).

at the southern side of San Francisco Bay in the Don Edwards National Wildlife Refuge and Bayland Park areas. Recovery of the species in Santa Clara Valley depends on concentrating conservation efforts near existing breeding burrowing owl colonies, along with the typical dispersal distances of burrowing owl. It was predicted that burrowing owls would move north of the main study area within 7.5 miles between natal, breeding, and overwintering sites. Thus near-term efforts to stabilize, protect, and better manage established and potential burrowing owl habitat in the Don Edwards and Baylands area was assigned elevated priority in the SCVHP.

Since the project area falls within high potential breeding habitat and is about 1.5 miles from two known and established breeding colonies, there is the possibility of burrowing owl presence on the project site (SCVHA 2012). Other than its inclusion in the extended study area for the protection and revival of the burrowing owl population, the project would not conflict with the underlying land use assumptions and inherent goals and conservation strategies incorporated in the habitat plan.

Construction

No Impact. Although the project site is within the extended study area of the SCVHP for burrowing owl conservation, the land and surrounding properties have been fully urbanized, and do not support the open foraging or burrowing habitats that are listed as focus areas in the San Jose/ Baylands Region in the SCVHP's Burrowing Owl Conservation Strategy (SCVHA 2019, Appendix M, pp. 3-5).

Operation and Maintenance

No Impact. The site is fully urbanized and in the unlikely event that burrowing owls were to establish on the site during operation, these birds would be covered by the MBTA and Fish and Game codes along with the obligate responsibilities of the site owner under these laws.

5.4.4 References

Bobbink, R., et. al 2003 - M. Ashmore, S. Braun, W. Flickinger, and I. J. J. van den Wyngaert, Empirical nitrogen critical loads for natural and semi-natural ecosystems: 2002 update. Pages 43-107 *in* B. Achermann and R. Bobbink, editors. Empirical loads for nitrogen. Environmental Documentation Number 164. Swiss Agency for the Environment, Forests, and Landscape, Berne, Switzerland

Bobbink, R., et. al 2010 - Global assessment of nitrogen deposition effects on terrestrial plant diversity: a synthesis. Ecological Applications 20:30-59.

CalFish 2019 - CalFish - A California Cooperative Anadromous Fish and Habitat Data Program, *Steelhead (Oncorhynchus mykiss)*. Available online at: https://www.calfish.org/FisheriesManagement/SpeciesPages/SteelheadTrout.aspx

Calflora 2019 - Calflora. Search for Plants. Available online at: https://www.calflora.org/

CalHerps 2019 - California Herps. *Western Pond Turtle – Actinemys Marmorata*. Available online: http://www.californiaherps.com/turtles/pages/a.marmorata.html

Cal Fish & Game 2019 - California Fish and Game Code (Cal Fish & Game). Available online at: http://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=FGC&tocTitle=+Fish+and+Game+Code+-+FGC

CDFW 2014 - California Department of Fish and Wildlife (CDFW). News, Michaels, Dana and Laura Patterson, "Recognizing California's Heroes in a Half-Shell: Our Resident Turtles and Tortoises," posted on May 23, 2014. Available online at: https://cdfgnews.wordpress.com/tag/western-pond-turtle/

CDFW 2012 - California Department of Fish and Wildlife (CDFW). Staff report on burrowing owl mitigation. State of California Natural Resources Agency. March 2012. Available online at: https://nrm.dfg.ca.gov/FileHandlre.ashx?DocumentID=83843CDFG

CLO 2019 - The Cornell Lab of Ornithology (CLO). All About Birds Search. Available online at: https://www.allaboutbirds.org/?__hstc=161696355.82e638173b73e9e2c33a86d99a3a6ce5.1558048498474.1558048498474.1558048498474.1&__hssc=161696355.2.1558048498475&__hsfp=1353874564#/_ga=2.251824393.1663171163.1558048476-2119268262.1558048475

Community Multiscale Air Quality Modeling System 2019 **-** Download shapefiles of CMAQ-predicted values of annual total depsotion across the US for 2002 through 2012. Available online at: https://www.epa.gov/cmaq/cmaq-data#Deposition-shapefiles.

CNDDB 2019, 2020 - California Natural Diversity Database (CNDDB). 9Quad and 2mile Search. Accessed on: November 2019-March 2020. Available online: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data#43018408-cnddb-in-bios

EnviroAtlas 2019 - EnviroAtlas Interactive Map. Available online at: https://enviroatlas.epa.gov/enviroatlas/interactivemap/#

Fenn, M.E., et. al 2003 - Baron, J.S., Allen, E.B., Rueth, H.M., Nydick, K.R., Geiser, L., Bowman,W.D., Sickman, J.O., Meixner, T., Johnson, D.W., P. Neitlich. Ecological effects of nitrogen deposition in the western United States. Bioscience 53(4): 404-420.

Gervais, J.A., D.K. Rosenberg, and L.A. Comrack 2008 - Burrowing Owl (Athene cunicularia). Pages 218-226 in W.D. Shuford and T. Gardali, editors. California Bird Species of Special Concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California Studies of Western Birds. No. I. Western Field Ornithologists, Camarillo, California and California Department of Fish and Game, Sacramento, California.

Horii 2019 - San Francisco Bay Area Parks, Recreation and Travel, Ron Horii, "San Tomas Aquino/Saratoga Creek Trail," posted on August 2014. Accessed on: April 4, 2019. Available online at: http://www.rhorii.com/STACT/SanTomasTrl.html

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020a - Response to CEC staff data request set 1 (1-59), Mission College Backup Generating Facility (19-SPPE-05), February 2020 (TN 231960 and 232047). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020b - Response to CEC staff data request set 2 (60-63), Mission College Backup Generating Facility (19-SPPE-05), February 27, 2020 (TN 232246). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020c - Applicant Acceptance of Mitigation Measure Language, email dated April 3, 2020 (TN 232673). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

NOAAF 2019 - National Oceanic And Atmospheric Administration Fisheries - West Coast Region, *Central California Coast Steelhead*. Available online at: https://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/salmon_and_steelhead_listings/steelhead/central_california_coast/Central%20California%20Coast%20Steelhead.html

Pardo L.H., et. al 2011 - M.E. Fenn, C.L. Goodale, L.H. Geiser, C.T. Driscoll, E.B. Allen, J. Baron, R. Bobbink, W.D. Bowman, C. Clark, B. Emmett, F.S. Gilliam, T. Greaver, S.J. Hall, E.A. Lilleskov, L. Liu, J. Lunch, K Nadelhoffer, S.S. Perakis, M.J. Robin-Abbott, J. Stoddard, K. Weathers, and R.L. Dennis. Effects of nitrogen deposition and empirical nitrogen critical loads for ecoregions of the United States. Ecological Applications 21:3049-3082.

Santa Clara 2019 - City of Santa Clara (Santa Clara). Santa Clara City Code 2019. Accessed on: April 29, 2019. Available online at: https://www.codepublishing.com/CA/SantaClara/

Santa Clara 2010 - City of Santa Clara (Santa Clara). 2010 – 2035 General Plan. Adopted November 16, 2010. Accessed on: April 29, 2019. Available online at: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan

SCVAS 2019 - Santa Clara Valley Audubon Society (SCVAS). Santa Clara County Bird List 2019. December 2019. Accessed on: March 6, 2020. Available online at: https://scvas.org/sc-county-birds-2019

SCVHA 2012 - Santa Clara Valley Habitat Agency (SCVHA). Final Santa Clara Valley Habitat Plan. August 2012. Accessed on: December, 2019. Available online at: https://scv-habitatagency.org/178/Santa-Clara-Valley-Habitat-Plan

SCVURPPP 2019 - Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). *San Tomas Aquino Creek Watershed*. Available online at: http://www.scvurppp-w2k.com/ws_sta.shtml

5.5 Cultural and Tribal Cultural Resources

This section describes the environmental and regulatory setting and discusses the impacts associated with the construction and operation of the project with respect to cultural and tribal cultural resources.

CULTURAL RESOURCES **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

TRIBAL CULTURAL RESOURCES Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

5.5.1 Setting

This section considers four broad classes of cultural resources: prehistoric, ethnographic, historic-period, and tribal cultural resources. The next four paragraphs briefly describe these classes of resources. Afterward, the Cultural and Tribal Cultural Resources section presents the environmental setting pertinent to these resources:

- *Prehistoric, ethnographic, and historic contexts*—generally describes who lived in the project vicinity, the timing of their occupation, and what uses they made of the area
- *Methods of analysis*—establishes what kinds of physical traces (cultural and tribal cultural resources) past peoples might have left in the project area, given the project vicinity's prehistoric, ethnographic, and historic contexts
- *Results* ensuing from those methods—identifies the specific resources present or expectable in the project area
- *Regulatory setting*—presents the criteria for identifying *significant* cultural and tribal cultural resources under the California Environmental Quality Act (CEQA) and other applicable authorities, as well as criteria for identifying significant impacts on these resources
- *Impacts*—identifies any impacts on cultural and tribal cultural resources, along with the severity of any such impacts
- *Mitigation measures*—proposes measures to avoid, minimize, rectify, reduce or eliminate, or compensate for any identified, significant impacts

Prehistoric archaeological resources are those materials relating to Native American occupation and use of a particular environment. These resources may include sites and deposits, structures, artifacts, rock art, trails, and other traces of Native American activity. In California, the prehistoric period began more than 12,000 years ago and extended through the eighteenth century until A.D. 1769, when Europeans first settled in California.

Ethnographic resources are those materials important to the heritage of a particular ethnic or cultural group, such as Native Americans or African, European, or Asian immigrants. They may include traditional resource collecting areas, ceremonial sites, topographic features, value-imbued landscapes, cemeteries, shrines, or neighborhoods and structures. Ethnographic resources are variations of natural resources and standard cultural resource types. They are subsistence and ceremonial locales and sites, structures, objects, and rural and urban landscapes assigned cultural significance by traditional users. The decision to call resources "ethnographic" depends on whether associated peoples perceive them as traditionally meaningful to their identity as a group and the survival of their lifeways.

Historic-period resources are those materials, archaeological and architectural, usually but not necessarily associated with Euro-American exploration and settlement of an area and the beginning of a written historical record. They may include archaeological deposits, sites, structures, trail and road corridors, artifacts, or other evidence of historic human activity. Under federal and state requirements, historic period cultural resources must be 50 years or older to be considered of potential historic importance. A resource less than 50 years of age may be historically significant if the resource is of exceptional importance. The Office of Historic Preservation (OHP 1995, page 2)

endorses recording and evaluating resources 45 years or older to accommodate a five-year lag in the planning process.

Tribal cultural resources are a category of historical resources recently introduced into CEQA by Assembly Bill 52 (Stats. 2014). Tribal cultural resources are resources that are any of the following: sites, features, places, cultural landscapes, sacred places, or objects that are included in or determined eligible to the California Register of Historical Resources (CRHR), or are included on a local register of historical resources as defined in Public Resources Code, section 5020.1(k). Tribal cultural resources can be prehistoric, ethnographic, or historic.

Prehistoric Context

The archaeological record in the Santa Clara Valley began about 9,000 years before present (B.P.)1 with the Metcalf Creek Aspect, the local expression of the Millingstone cultural pattern. Archaeological deposits dating to this time contain milling slabs and handstones, and large wide-stemmed and leaf-shaped projectile points. Native people during this period were mobile foragers and burials were typically flexed and placed beneath millingstone cairns. (Milliken et al. 2007, page 114.)

This Early Holocene culture extended until the beginning of the Early Period (circa 5500 B.P.), which exhibits developments in groundstone technology (i.e., replacing millingstones with the mortar and pestle), less movement of entire communities, regional symbolic integration between cultural groups, and increased trade. Also referred to locally as the Sandhill Bluff Aspect, this cultural pattern lasted until circa 2500 B.P., when the Lower Middle Period began with a "major disruption in symbolic integration systems." (Milliken et al. 2007, page 115.) Archaeological assemblages from the Lower Middle Period include more olive snail-shell saucer beads and circular abalone shell ornaments (and the disappearance of the rectangular shell beads), as well as bone tools and whistles.

The Upper Middle Period began ca. 1520 B.P. with a disruption of the olive snail-shell bead trade network, abandonment of some village sites, and changes in shell bead manufacture. Some South Bay burials from this period were extended inhumations rather than flexed burials, and grave goods were lacking. (Milliken et al. 2007, page 116.)

The Late Period began ca. 900 B.P., with groups increasingly intensifying the creation of wealth objects, as seen in burials. Smaller projectile points for use in the bow and arrow emerged during this period and some of the mortuary evidence suggests the introduction of cremation, at least among the wealthiest of individuals. (Milliken et al. 2007, page 117.)

1 The term "B.P." (Before Present) is an international dating convention that refers to the year 1950 as the present.

Archaeological research in the project vicinity reveals a rich and lengthy archaeological record. In particular, archaeologists have found numerous buried Native American sites throughout the lower Santa Clara Valley. Rapid development of the valley covered numerous archaeological sites in pavement or with structures (Busby et al. 1996a, pages 2–4; Hylkema 1994, page 252; Parsons and KEMCO 1983, pages 18 and 35). Below even the archaeological sites capped by the veneer of recent building, the Guadalupe River and smaller streams (Saratoga and San Tomas Aquino creeks) buried generations of Native American sites under layers of silt and clay. As a result, the surface archaeological record of Santa Clara Valley represents only the last 2,000 years of human occupation. The remaining 7,000 years of native history lay anywhere from near surface up to 30 feet below the modern ground surface. (Busby et al. 1996a, pages 2–4; Busby et al. 1996b, page 2; Jones et al. 2007, page 130; Parsons and KEMCO 1983, pages 16, 25–26, 33; Ruby et al. 1992:9, 12, 17–19.)

Ethnographic Context

The Costanoans are the Native Americans who inhabited the Bay Area since time immemorial. The Costanoan designation refers to those who spoke one of eight separate but related languages (Shipley 1978:84, 89). The Costanoan languages are similar to Miwok, and are part of the Yok-Utian language family of the Penutian stock (Golla 2007, pages 75–76). Tamyen (Santa Clara Costanoan) was spoken around the southern end of San Francisco Bay and the lower Santa Clara Valley (and was spoken by Costanoans in the project vicinity). (Milliken et al. 2007, Figure 8.1; Shipley 1978, pages 84 and 89.)

Each village was a separate and politically autonomous tribelet, with about 200 people living within each. Tribelets were the basic unit of political organization, with chiefs, either women or men, descended from their patrilineal relative. In the late 1700s, there were two tribelets in close proximity to the proposed project site, San José Cupertino and Santa Clara; both are presumably Tamyen speakers. (Levy 1978, Figure 1.) Kroeber (1976, Figure 42) indicates that two settlements were located within a few miles of the project site on the Guadalupe River, Tamie-n near Santa Clara, and Ulis-tak farther north near the Bay.

Like most other Native Americans in California, acorns were the staple food of the Costanoan people in the Santa Clara region. Other nuts such as buckeye, California laurel, and hazelnuts were also eaten. The Costanoans set controlled fires to promote the growth of the nuts and seeds upon which they relied. The primary mammals taken by the Costanoan included the black-tailed deer, elk, antelope, grizzly bear, mountain lion, sea lion, and whale. Waterfowl, salmon, steelhead, and lampreys were also important components of the Costanoan diet. (Levy 1978, page 491.)

Thatched, domed houses were the most common type of structure for the Costanoans. Sweathouses along the banks of rivers were also constructed, in addition to dance enclosures and assembly houses. (Levy 1978, page 492.)

Bodies were either buried or cremated on the day of death. The community either buried the deceased's property with the body or destroyed their property. (Kroeber 1976, page 469; Levy 1978, page 490.)

Trade was important for the Costanoan groups, and their primary partners in trade were the Plains Miwok, Sierra Miwok, and Yokuts. The Costanoan provided coastal resources such as mussels, abalone shell, dried abalone, and salt to the Yokuts in exchange for piñon pine nuts. The Miwok obtained olive snail shells from the Costanoans. Warfare occurred between Costanoan tribelets as well as the Costanoans and the Esselen, Salinan, and Northern Valley Yokuts. (Davis 1961, page 19; Levy 1978, page 488.)

A common archaeological manifestation of a Costanoan village site is the shell mound deposits (Kroeber 1976, page 466). Mussels are the primary shells that constitute these mounds, in addition to other household wastes.

The Spanish established seven missions in Costanoan territory between 1770 and 1797. By 1810, the mission system subsumed the last Costanoan village. Missions in the Bay Area mixed together various language and cultural groups including the Esselen, Foothill Yokuts, Plains Miwok, Saclan Miwok, Lake Miwok, Coast Miwok, and Patwin. The mission closest to the proposed project area was Santa Clara de Asís, built in 1777. The mission is no longer extant but the area is still rich in archaeological manifestations from the mission period and before. (Levy 1978, page 486.)

Historic Context

In order to inform an understanding of the potential significance of built environment resources near the project, a review of the major historical timeline markers for the project area provides context. This subsection offers a brief look at those events and trends in the history of the Santa Clara Valley region that provide that context, in particular for the project site:

- Spanish Mission Period
- Mexican Period
- American Period
    - Transportation and Railroads
    - Agriculture and Fruit Industry
    - Post World War II (WWII) and Silicon Valley
    - Project Site History
    - San Tomas Aquino Creek

Spanish/Mission Period (1769 to 1821)

The Spanish Period hosted several important developments, such as the establishment of Spanish colonial military outposts (presidios), pueblos, and 21 missions throughout Alta California. Nearest to the location of the proposed project were the Santa Clara de Asís Mission (1777), El Pueblo de San José de Guadalupe (1777) and associated Mission (1797), and Santa Cruz Mission (1791). The Spanish government also awarded land grants to soldiers and others and thus began the tradition of large land grants used for agriculture and livestock. Little remains of the cultural landscape that existed during this time aside from some roads that follow the same early transportation routes (Santa Clara County 2012, pages 22–26).

Mexican Period (1821 to 1848)

Following Mexican independence from Spain in 1821, Mexican Governor Pío Pico granted lands to Mexican settlers, including the former mission lands, whose connection to the government was lost in the Decree of Secularization in 1834. The Mexican governor granted forty-three ranchos in the Santa Clara Valley between 1802 and 1845. Local planning agencies lack detailed information on the location and integrity of these early California sites (Santa Clara County 2012, pages 30–32). The project site appears to be within the boundaries of the Rancho Ulistác (USGS 1899). Governor Pío Pico granted the land in 1845 to two Santa Clara Mission Indians: Marcelo Pio and Cristóbal. After the Mexican-American War (1846–1848), Jacob D. Hoppe obtained title to the rancho. Following Hoppe's death, his heirs divided and sold the land (Oosterhous et al. 2002, page 6). Santa Clara's historic context statement laments that most traces of original haciendas, adobes, and other rancho structures are not discernible in the landscape today and few records exist (Santa Clara County 2012, page 32).

American Period (1848 to Present)

California became the thirty-first state in the Union in 1850. In 1851, Santa Clara College, now Santa Clara University, was founded on the site of the Santa Clara de Asís Mission. The incorporation of the City of Santa Clara followed in 1852. In 1866, the city officially established a gridded street system to accommodate anticipated growth. Today, this area is known as the Old Quad neighborhood. Early industries in the city included wheat production and flour milling, seed and fruit packing, and manufacturing. Leather tanning and wood products were two key industries of the city well into the twentieth century. Similarly, seed growing and fruit farming and packing (especially pears, cherries, apricots, and prunes) were mainstays, contributing to the city's exports. (Santa Clara 2010, page 3-2)

Transportation and Railroads

In 1869, the Western Pacific Railroad completed a rail line from San Jose to Niles, California, effectively connecting San Jose with the Transcontinental Railroad. This opened new markets for the agricultural and manufactured products of the entire Santa

Clara Valley. In 1982, Western Pacific merged with Union Pacific Railroad. (Santa Clara County 2012, page 44)

Senator James Fair, a multi-millionaire, envisioned a route from the east side of San Francisco Bay, south to San Jose, then on to Los Gatos and through the mountains to Felton, ultimately connecting to Santa Cruz. Senator Fair incorporated the South Pacific Coast Railroad in 1876 and immediately began building the segment from Dumbarton in the East Bay to Los Gatos, by way of Santa Clara and San Jose. Following that segment, the rail line passed through the Santa Cruz Mountains to connect with the narrow gauge railroad at Felton. The Southern Pacific acquired these rail lines in 1887 and eventually converted the narrow gauge lines to standard gauge (Lehmann 2000, pages 31–33).

The Santa Cruz Division of the Southern Pacific Railroad passed adjacent to the eastern edge of the downtown grid of Santa Clara (USGS 1899). A 1915 USGS topographic map shows the route of the entire Santa Cruz division from San Jose through the Santa Cruz Mountains to Santa Cruz (USGS 1915). None of the railroads appear to have connected to the area encompassing the project site as it remained in agricultural production beyond the end of WWII and as recently as 1968. (Historic Aerials n.d.).

Santa Clara Valley Agriculture and Fruit Industry

Fruit orchards and vegetable farms dominated the Santa Clara Valley from the 1890s to the 1940s. Wheat and flour milling were the first major agricultural activities. In support of the fruit and vegetable industry, canning operations flourished in the northeastern portion of the county. Fruit packing companies were common in Santa Clara Valley in the first third of the twentieth century. Nearly half of the world's supply of fresh, dried, and canned fruit through the end of WWII originated from the valley. The agricultural base economy and its support operations were gradually displaced by expanding suburban development, light industrial, and high-tech research and development operations by the 1970s (Fike 2016, page 2).

Post WWII and Silicon Valley

The Santa Clara Valley's current commercial and industrial operations are indicative of the shift that took place after WWII from agricultural-based businesses to light industrial and ultimately high-tech research and development facilities. The Owens-Corning plant was one of the first new industrial businesses in the Santa Clara Valley and represents the shift toward industrial business in the valley after WWII. A 1949 aerial photograph shows the brand new plant along Lafayette Street with agricultural uses surrounding it (Draper 1949). The plant remains in that location today. Throughout the valley, residential home developments slowly replaced orchards and agricultural fields. Due to the increased pressure from housing, the city of Santa Clara grew from 6,500 residents in 1940 to 86,000 by 1970 (Fike 2016, page 2). The landscape was forever transformed.

From 1960 to 1980, much of the industrial growth was in the electronics research and manufacturing sectors. The City of Santa Clara is home to Intel, Applied Materials, Sun Microsystems, Nvidia, National Semiconductor, and other high technology companies (Santa Clara 2010, pages 3-3–6). More recently, Santa Clara has become home to numerous data centers supporting the operations of the high technology companies of the Silicon Valley. This represents yet another contextual shift in the history of the Santa Clara/Silicon Valley.

Project Site

The land at 2305 Mission College Boulevard was in agricultural production until the 1970s. Between 1973 and 1980, the orchards on the project site were removed (Historic Aerials n.d.). In 1978 a long narrow industrial building was constructed. During the 1980s and 1990s, the building underwent significant exterior and interior alterations (Santa Clara n.d.). The area surrounding the project site was largely developed in the 1970s and 1980s with a majority of buildings housing businesses in the technology sector including an Intel campus, Varex Imaging, and OmniVision Technologies. The surrounding commercial and industrial operations are indicative of the shift that took place in Santa Clara from agricultural-based businesses to high-tech research and development facilities. The project site (APN 104-13-096) is a 15.78-acre pentagonal-shaped parcel containing a two-story, 358,000 square-foot office building and associated parking areas. The building was constructed in 1978 by Northern Telecom Inc. and is currently in an advanced stage of demolition.

San Tomas Aquino Creek

San Tomas Aquino Creek's origin is located in the foothills of the South Coast Ranges. Throughout the early nineteenth century, with the exception of San Francisquito Creek, not a single creek originating in the foothills maintained a defined channel from the hills to the bay, including San Tomas Aquino Creek. The creek had a more sinuous watercourse compared to today's channelized conveyance (SFEI 2010, pages 13–14). The creek appears to have been straightened and perhaps channelized by 1897. Originally appearing quite narrow and tree-lined in aerial imagery, the creek evolved after the construction of U.S. Highway 101 interchange at Montague Expressway (circa 1963) into a wider conveyance with distinct edges, likely consisting of raised sides or levees (EDR 2017a, 2017b). Today, a bicycle trail traverses the west side of the channel on a levee and is accessible approximately 200 feet to the west on the north and south side of the project.

Methods

Project Area of Analysis

The project area of analysis (PAA) defines the geographic area in which the proposed project has the potential to affect cultural or tribal cultural resources. Effects may be immediate, further removed in time, or cumulative. They may be physical, visual, audible, or olfactory in character. The PAA may or may not be one uninterrupted

expanse. It could include the site of the proposed project (project site), the routes of requisite transmission lines and water and natural gas pipelines, and other offsite ancillary facilities, in addition to one or several discontiguous areas where the project could arguably affect cultural or tribal cultural resources.

CEC staff defines the PAA as comprising the proposed project site and all appurtenant, proposed improvements. The PAA has archaeological, ethnographic, and historic built environment components, as described in the following paragraphs.

CEC staff defines the archaeological component of the PAA as all areas in which the applicant proposes ground disturbance to construct, operate, and decommission the proposed project. This includes building demolition, the proposed building sites, areas slated for concrete and hardscape removal, areas to be filled and graded, staging and laydown areas, installation of underground utilities, subsurface drainage, and installation of two transmission line poles. The applicant proposes demolition and excavation to variable depths. The applicant proposes to import fill and raise the base elevation of the project site about 3 feet above the current elevation. Excavation for proposed utilities would extend up to 12 feet below the project's new base elevation (Mission College 2019a, page 19). Excavation across much of the PAA would not reach 10 feet below current grade (Mission College 2019a, page 108; Mission College 2019b, Appendix C page 53). Transmission line poles would be installed via truck-mounted auger to a depth of 20–30 feet. Foundation piles for the data center buildings would be 16-inch-diameter auger cast piles drilled to depths of approximately 30 feet below the new (project) base elevation (Mission College 2020a, pages 25–26; Mission College 2020b, page 4).

For ethnographic resources, the PAA takes into account sacred sites, tribal cultural resources, traditional cultural properties (places), and larger areas such as ethnographic landscapes that can be vast and encompassing, including view sheds that contribute to the historical significance of such resources. The Native American Heritage Commission (NAHC) assists project-specific cultural resources consultants and agency staff in identifying these resources, and consultation with Native Americans and other ethnic or community groups may contribute to defining the PAA. In the case of the proposed project, the immediate environs consist largely of office parks, a residential subdivision, and a channelized creek. Staff therefore treats the ethnographic component of the PAA as coterminous with the archaeological component.

The proposed project site consists primarily of pavement, hardscape, and modest landscape elements, much of which dates to the recent historic period. The historic built environment PAA for this project includes properties within a one-parcel boundary of the project site. This includes all properties directly across the road or directly across the San Tomas Aquino Creek from the project site.

Literature Review

The literature review for this analysis consisted of a records search at the California Historical Resources Information System (CHRIS), review of the application for small power plant exemption (SPPE), and examination of pertinent literature concerning cultural resources in the northern Santa Clara Valley.

The applicant conducted the records search at the Northwest Information Center (NWIC) of the CHRIS on February 27, 2017. The NWIC is the State of California's official repository of cultural resource records, previous cultural resources studies, and historical information concerning cultural resources for 16 counties, including Santa Clara County. The records search area included the PAA and a one-quarter mile buffer. The applicant also conducted research using Holman & Associates' Library (Mission College 2019b, Appendix C page 1).

CEC staff also examined historic maps and aerial photographs of the PAA and vicinity to identify cultural resources (EDR 2017a, 2017b; Edward Denny & Co. 1913; GLO 1866; Oosterhous et al. 2002, page 6; USGS 1899). These sources depict the historic appearance of the PAA each decade from 1857 through 1980 (excepting the 1880s, 1900s, and 1920s).

In addition, CEC staff consulted:

- City of Santa Clara's General Plan 2010–2035, including its Historic Preservation and Resource Inventory (Santa Clara 2010)
- County of Santa Clara Historic Context Statement (Santa Clara County 2012)
- County of Santa Clara Heritage Resource Inventory (Santa Clara 2015)

CEC staff also consulted the NRHP, CRHR, Historic American Building Survey, Historic American Engineering Record, Historic American Landscape Survey, and other repositories of documentation of historical resources.

Tribal Consultation

Applicant's Correspondence

The applicant contacted the NAHC to request a list of tribes that might be interested in the project. The NAHC provided a list of six California Native American tribes to contact:

1. Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
2. North Valley Yokuts Tribe
3. The Ohlone Indian Tribe
4. Amah Mutsun Tribal Band
5. Indian Canyon Mutsun Band of the Costanoan
6. Amah Mutsun Band of Mission San Juan Bautista

The applicant sent letters to these tribes on November 20, 2019 (Mission College 2019a, page 179).

CEC Consultation

CEQA requires lead agencies to consult with all California Native American tribes that have traditional and cultural affiliation with the geographic area of a project, and that have previously requested consultation. To invoke an agency's requirement to consult under CEQA, a tribe must first send the lead agency a written request for formal notification of any projects within the geographic area with which they traditionally and culturally affiliate. (Pub. Resources Code, § 21080.3.1(b).) The CEC has not received any requests for formal notification from tribes that have traditional and cultural affiliation with the geographic area of the proposed project. Therefore, the CEC has no obligations under CEQA's formal tribal notification or consultation requirements.

However, consistent with the CEC's tribal consultation policy (CEC 2017), CEC staff contacted the NAHC on December 5, 2019, to request a search of the Sacred Lands File and a list of California Native American tribes that might be interested in the proposed project. The NAHC responded on December 10, 2019, and provided a list of six California Native American tribes to contact (NAHC 2019); the listed tribes were the same six tribes listed above. CEC staff mailed initial consultation letters to these six tribes on January 2, 2020 (See TN 231437). See the following subsection, "Results," for tribal responses and lead agency follow-up.

Archaeological Survey

The applicant did not commission an archaeological survey of the project site because it is covered with buildings, structures, pavement, and hardscape.

Historic Architectural Survey

CEC cultural resources staff conducted an architectural survey inclusive of the project site and a one-parcel buffer from the proposed project boundaries. Buildings or structures 45 years or older, or considered significant, were identified as part of this survey. Any building constructed in 1975 or earlier, or potentially eligible for the CRHR or local register, was evaluated for potential significance. Staff conducted a field reconnaissance survey on February 13, 2020 using these methods.

Results

Literature Review Results

The NWIC records search did not identify any previous cultural resources studies conducted within the project area, but documents five previous cultural resources studies within one quarter-mile of the PAA. The NWIC has no records of previously recorded cultural resources within one quarter-mile of the PAA (Mission College 2019b, Appendix C page 1). Staff identified six cultural resources within one quarter-mile of the

PAA using the CEC's Cultural Resource Unit Inventory and the City of Santa Clara's MapSantaClara tool. These cultural resources are listed in **Table 5.5-1**.

TABLE 5.5-1. CULTURAL RESOURCES IDENTIFIED IN THE LITERATURE REVIEW

No.	Address	Resource Name/APN	Description, Year Built	Eligibility Status
1.	San Tomas Aquino Creek	104-13-078	Channelized water conveyance structure, 1897	Ineligible
2.	Newark Kifer 115kV Transmission Line	PG&E Newark to San Jose Transmission Line	Transmission line and structures, 1920s	Ineligible
3.	Tract No. 5139	104-34-000	Townhouse subdivision, 1973	Not Evaluated
4.	Santa Clara Fire Department Station 8	104-13-067	Fire station, 1975	Not Evaluated
5.	4306 Fillmore Street	104-11-119	Bungalow, 1925	Not Evaluated
6.	4316 Fillmore Street	104-11-060	Bungalow, 1920	Not Evaluated

Notes: APN = Assessor's Parcel Number; kV = kilovolt(s); No. = number; PG&E = Pacific Gas and Electric Company

Tribal Consultation Results

The December 10, 2019, search of the Sacred Lands File did not identify Native American cultural resources in the search area (NAHC 2019). The applicant did not receive any responses to letters sent to these tribes. **Table 5.5-2** describes staff's consultation efforts.

TABLE 5.5-2. STAFF'S TRIBAL CORRESPONDENCE LOG

Name/Affiliation Contact Information	Type of Contact	Date	Tribal Response/Staff Notes
Valentin Lopez Amah Mutsun Tribal Band P.O. Box 5272, Galt, CA 95632 (916) 743-5833 vlopez@amahmutsun.org	Letter	1/2/2020	Staff's letter provided a brief description of the proposed project, two figures showing its location, and invited consultation.
	Phone	1/16/2020	The proposed project is outside of their traditional territory. Declined to comment.
Irenne Zwierlein Amah Mutsun Tribal Band of Mission San Juan Bautista 789 Canada Road, Woodside, CA 94062 (650) 851-7489 amahmutsuntribal@gmail.com	Letter	1/2/2020	Staff's letter provided a brief description of the proposed project, two figures showing its location, and invited consultation.
	Phone	1/16/2020	Staff reached the chairperson on the phone. She strongly requested worker environmental awareness program training. She also requested to know how much and how deep ground disturbance would be. Staff agreed to follow up phone call after receiving clarification from applicant on ground disturbance.

Name/Affiliation Contact Information	Type of Contact	Date	Tribal Response/Staff Notes
	Email	1/16/2020	Staff sent a follow up email with a copy of the January 2nd letter. The email reiterated that staff would follow up with a phone call once clarification on ground disturbance is received.
	Phone	3/4/2020	Staff reached the chairperson's voicemail and left a message explaining the proposed ground disturbance on the project site.
	Email	3/4/2020	Staff sent a follow up email explaining the proposed ground disturbance on the project site.
Ann Marie Sayers Indian Canyon Mutsun Band of Costanoan P.O. Box 28, Hollister, CA 95024 (831) 637-4238 ams@indiancanyon	Letter	1/2/2020	Staff's letter provided a brief description of the proposed project, two figures showing its location, and invited consultation.
	Phone	1/16/2020	Staff reached the chairperson on the phone. She requested a follow up with staff's opinion on likelihood of impacts both by phone and by email.
	Email	1/16/2020	Staff's email served as a second notice and invitation to consult. Staff sent a copy of the January 2nd letter and figures in the email. Staff reached the chairperson's voicemail and left a message with return number and email.
	Phone	1/27/2020	Followed up on phone call from January 16th. Discussed data center cultural resource processes and SPPE timeline and how to lessen potential impacts.
	Email	1/27/2020	Followed up on phone call from January 16th. Discussed data center cultural resources processes.
Monica Arellano Muwekma Ohlone Indian Tribe of the San Francisco Bay Area 20885 Redwood Road, Suite 232, Castro Valley, CA 94546 (408) 205-9714 marellano@muwekma.org	Letter	1/2/2020	Staff's letter provided a brief description of the proposed project, two figures showing its location, and invited consultation.
	Phone	1/16/2020	Staff reached the chairperson's voicemail, but was unable to leave a message because the voicemail box was full.
	Email	1/16/2020	Staff's email served as a second notice and invitation to consult. Staff sent a copy of the January 2nd letter and figures to in the email.

Name/Affiliation Contact Information	Type of Contact	Date	Tribal Response/Staff Notes
Katherine Perez North Valley Yokuts Tribe P.O. Box 717, Linden, CA 95236 (209) 887-3415 canutes@verizon.net	Letter	1/2/2020	Staff's letter provided a brief description of the proposed project, two figures showing its location, and invited consultation.
	Phone	1/16/2020	Staff reached the chairperson's voicemail and left a message with return number and email.
	Email	1/16/2020	Staff's email served as a second notice and invitation to consult. Staff sent a copy of the January 2nd letter and figures to in the email.
Andrew Galvan The Ohlone Indian Tribe P.O. Box 3388, Fremont, CA 94539 chochenyo@AOL.com	Letter	1/2/2020	Staff's letter provided a brief description of the proposed project, two figures showing its location, and invited consultation.
	Phone	1/16/2020	Staff reached the chairperson on the phone. He wanted to continue consultation through email and to receive a copy of the literature search via email.
	Email	1/22/2020	Staff emailed Andrew Galvan as a follow up to the phone call. Staff sent him a copy of the literature search and asked him how he wished to proceed with consultation. He did not reply to this message.

Historic Architectural Survey Results

The built environment PAA used for this project includes properties within a one-parcel boundary of the project site. The study area was established to analyze the project's potential for impacts to built-environment historical resources. The built environment survey and archival search conducted by the applicant did not identify any properties containing buildings or structures 45 years or older within the PAA. CEC staff identified three historic-era resources 45 years or older within the PAA. The three resources are the San Tomas Aquino Creek, subdivision Tract Number 5139, and the Santa Clara Fire Department Station 8.

San Tomas Aquino Creek

San Tomas Aquino Creek (APN 104-13-078) is immediately adjacent to the project site and is a channelized water conveyance structure. San Tomas Aquino Creek does not follow its original watercourse and has been straightened and channelized since at least 1897 (EDR 2017a). Although the water conveyance structure has not been formally surveyed or evaluated for this project, a previous study for the regional bicycle trail system (Baker 1998), of which the creek is a segment, found no listed or eligible historical structures within the study area, including Reach 2 (the area closest to the

project site). Southern Pacific Railroad structures were identified in Reach 1 and Reach 3; neither were recorded or evaluated for the study (Baker 1998, pages 6–9). Based on this previous study the CEC determined in its Final Commission Decision on the Laurelwood Data Center (19-SPPE-01) that San Tomas Aquino Creek is not considered a historical resource for the purposes of CEQA (See TN 231721 and TN 231950).

Tract Number 5139

Tract Number 5139 (APNs 104-34-000, 104-35-000, 104-36-000, and 104-37-000) is a 24-acre townhouse subdivision consisting of approximately 85 buildings. The subdivision is located predominately between San Tomas Aquino Creek, Agnew Road, and Lakeshore Drive, with an additional section located on the west side of Lakeshore Drive between Agnew Road and 2nd Street. The subdivision is divided into four acessor parcels. Each of these parcels is subdivided into lots, one for each building. Of the 85 buildings within the subdivision, five are within the PAA and are directly across Agnew Road from the project site.

According to the City of Santa Clara's MapSantaClara the subdivision was built in the Shed style[2] in 1973 (MapSantaClara n.d.). It contains 188 subdivided parcels. These parcels represent 188 townhouse units located within 48 residential buildings with an associated 34 detached garages. Additionally, there are three community buildings, two of which have an attached community swimming pool. (Charles W. Davidson Co. 1972).

Staff evaluated Tract Number 5139 for its eligibility for listing in the CRHR, and City of Santa Clara Historic Resource Inventory (MapSantaClara n.d.). Tract Number 5139 was built in 1973 by the Charles W. Davidson Company as part of the general transition from agricultural land to residential and industrial properties in this area of Santa Clara (Charles W. Davidson Co. 1972). Tract Number 5139, however, is not significant within this context. Charles W. Davidson, the owner of the Charles W. Davidson Company, built more than 5,000 residential units in and around Silicon Valley alone between the early 1960s and the mid-1980s (Bitters 2019). This particular subdivision falls in the middle of this building period and is essentially anonymous in the spate of residential development that occurred in post-War Santa Clara. As such, Tract Number 5139's association with the post-War residential boom does not appear to be a significant one (CRHR Criterion 1; Santa Clara Historical or Cultural and Geographical Criteria).

Tract Number 5139 does not have any significant associations with individuals who are important in local, regional, state or national history. Although it is associated with Charles W. Davidson—who is significant in local history—his significance derives from his development of thousands of properties in the region. This subdivision represents just one of many planned that Charles W. Davidson built in this period and it is not in any way remarkable in its association with this locally significant figure. Most likely, one of the buildings associated with one of his development company headquarters would

2 McAlester 2015, pages 648–653

have a more significant association with him. Therefore, the property is ineligible for listing under CRHR Criterion 2 and the City of Santa Clara's Criteria for Historical or Cultural Significance (Santa Clara 2018).

The buildings and structures in Tract Number 5139 do not embody distinctive characteristics of a type, period, region, or method of construction. They do not reflect the work of a master engineer or architect and do not hold high engineering values. The subdivision is typical in its constituent buildings, structures, engineering, layout, and execution, for a 1970s subdivision and is not a unique, rare, or significant example of the type (CRHR Criterion 3; Santa Clara Architectural Criterion).

Tract Number 5139 does not appear to hold data potential or informational value that would be important for the understanding of prehistory or history (CRHR Criterion 4, Santa Clara Archaeological Criterion). Staff, therefore, concludes that Tract Number 5139 is not eligible for listing under the CRHR. Thus, the subdivision does not appear to qualify as a historical resource under CEQA or to meet the City's Criteria for Local Significance.

Santa Clara Fire Department Station 8

Santa Clara Fire Department Station 8 (APN 104-13-067) is on a 1.2-acre parcel on the west side of San Tomas Aquino Creek, opposite the project site. The parcel includes the fire station, a parking lot in the rear of the property, and landscaping. The fire station is a one-story ranch style building. The building dates to 1975 and has undergone significant alterations. The building faces west toward Agnew Road and has three major sections. The building is centered on a large garage for fire department vehicles with two garage doors on both the front and rear of the building. Two single story wings flank the garage on both the north and south side. The north wing has an additional storage room that opens to the rear of the property. The entire north wing is a recent addition from renovations in 2019 and 2020 (Le 2019).

Staff evaluated Santa Clara Fire Department Station 8 for its potential listing in the CRHR and City of Santa Clara's Historic Resource Inventory. Although built in 1975, the station did not officially open until 1976, pushing any potential period of significance for CRHR Criteria 1 and 2 and the City of Santa Clara's Criteria for Historical or Cultural Significance and Geographic Significance to at least 1976 (Santa Clara Fire Department 1999, page 58).

The building does not embody distinctive characteristics of a type, period, region, or method of construction. It does not reflect the work of a master engineer or architect and does not hold high engineering or architectural values. Santa Clara Fire Department Station 8 is typical in its constituent buildings, structures, engineering, layout, and execution for a ranch-style fire station. Additionally, even if the building was significant under this criterion, the building recently underwent extensive renovations that would compromise its historical integrity. Therefore, staff concludes that this property is not

significant under CRHR Criterion 3 or the City of Santa Clara's Criterion for Architectural Significance (Santa Clara 2018).

The Santa Clara Fire Department Station 8 does not appear to hold data potential or informational value that would be important for the understanding of prehistory or history (CRHR Criterion 4, Santa Clara Archaeological Criterion). Staff, therefore, concludes that the Santa Clara Fire Department Station 8 is not eligible for listing under the CRHR or the City of Santa Clara's significance criteria. Thus, the building does not appear to qualify as a historical resource under CEQA or to meet the City's Criteria for Local Significance.

Archaeological Sensitivity

The application and staff's literature review indicate that the potential for buried archaeological resources to occur in the project vicinity mirrors the high frequency of buried archaeological deposits throughout the Santa Clara Valley (Byrd et al. 2017, page 4-2; Mission College 2019a, pages 92–93; Hylkema 1998, page 20). Researchers have identified at least 16 buried prehistoric archaeological sites in the Santa Clara Valley (Rehor and Kubal 2014, page 4-1, Table 4-1). Archaeologists working independently of the present analysis have estimated the PAA's likelihood to contain buried, prehistoric archaeological resources as moderate (Byrd et al. 2017, Figures 26–27). The PAA hosted farms, orchards, and residences or work buildings since the middle of the 1800s to about 1895–1939. Early landowners included one "Mrs. Woods" and Abram Agnew. Therefore, buried historic archaeological resources are also expectable, especially in the northeast portion of the PAA, where two buildings were located in 1895. (GLO 1866; Oosterhous et al. 2002, page 6; USGS 1899.)

Regulatory Background

Federal

No federal regulations related to cultural or tribal cultural resources apply to the project.

State

California Environmental Quality Act. Various laws apply to the evaluation and treatment of cultural resources. CEQA requires lead agencies to evaluate cultural resources by determining whether they meet several sets of specified criteria that make such resources eligible to the CRHR. Those cultural resources eligible to the CRHR are historical resources. The evaluation then influences the analysis of potential impacts to such historical resources and the mitigation that may be required to ameliorate any such impacts.

CEQA and the CEQA Guidelines define significant cultural resources under two regulatory definitions: historical resources and unique archaeological resources. A historical resource is defined as a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical

Resources", or "a resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code," or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record." (Cal. Code Regs., tit. 14, § 15064.5(a).) Historical resources that are automatically listed in the CRHR include California historical resources listed in or formally determined eligible for the NRHP and California Registered Historical Landmarks from No. 770 onward (Pub. Resources Code, § 5024.1(d)).

CEQA generally considers a resource historically significant if it meets the criteria for listing in the CRHR. In addition to being at least 45 years old, a resource must meet one or more of the following four criteria (Pub. Resources Code, § 5024.1):

- Criterion 1, is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Criterion 2, is associated with the lives of persons important in our past;
- Criterion 3, embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Criterion 4, has yielded, or may be likely to yield, information important in prehistory or history.

In addition, historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (Cal. Code Regs., tit. 14, § 4852(c)).

Even if a resource is not listed or determined to be eligible for listing in the CRHR, CEQA requires the lead agency to make a determination as to whether the resource is a historical resource as defined in Public Resources Code, sections 5020.1(j) or 5024.1.

In addition to historical resources, archaeological artifacts, objects, or sites can meet CEQA's definition of a unique archaeological resource, even if the resource does not qualify as a historical resource (Cal. Code Regs., tit. 14, § 15064.5(c)(3)). Archaeological artifacts, objects, or sites qualify as unique archaeological resources if it is clearly demonstrable that, without merely adding to the current body of knowledge, there is a high probability that the resource meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person (Pub. Resources Code, § 21083.2(g).)

To determine whether a proposed project may have a significant effect on the environment, staff analyzes the project's potential to cause a substantial adverse change in the significance of historical or unique archaeological resources. The magnitude of an impact depends on:

- the historical resource(s) affected;
- the specific historic significance of any potentially impacted historical resource(s);
- how the historical resource(s) significance is manifested physically and perceptually;
- appraisals of those aspects of any historical resource's integrity that figure importantly in the manifestation of the resource's historical significance; and
- how much the impact will change historical resource integrity appraisals.

Title 14, California Code of Regulations, section 15064.5(b) defines a "substantial adverse change" as the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired."

California Native American Tribes, Lead Agency Tribal Consultation Responsibilities, and Tribal Cultural Resources. CEQA provides definitions for California Native American tribes, lead agency responsibilities to consult with California Native American tribes, and tribal cultural resources. A "California Native American tribe" is a "Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission (NAHC) for the purposes of Chapter 905 of the Statutes of 2004" (Pub. Resources Code, § 21073). Lead agencies implementing CEQA are responsible to consult with California Native American tribes about tribal cultural resources within specific timeframes. If tribal cultural resources could be impacted by a CEQA project, lead agencies are to exhaust the consultation to points of agreement or termination.

Tribal cultural resources are either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
   a. Included or determined to be eligible for inclusion in the CRHR
   b. Included in a local register of historical resources as defined in the Public Resources Code, section 5020.1(k).
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in the Public Resources Code, section 5024.1(c). In applying these criteria, the lead agency shall

consider the significance of the resource to a California Native American tribe. (Pub. Resources Code, § 21074(a).)

A cultural landscape that meets the criteria of Public Resources Code, section 21074(a), is a tribal cultural resource to the extent that the landscape is geographically defined in terms of its size and scope (Pub. Resources Code, § 21074(b)). Historical resources, unique archaeological resources, and non-unique archaeological resources, as defined at Public Resources Code, sections 21084.1, 21083.2(g), and 21083.2(h), may also be tribal cultural resources if they conform to the criteria of Public Resources Code, section 21074(a).

CEQA also states that a project with an impact that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (Pub. Resources Code, § 21084.2).

Local

City of Santa Clara General Plan. Section 5.6.3 of the City of Santa Clara's General Plan outlines the goals and policies related to archaeological and cultural resources. The applicable goals in this section of the General Plan encourage the protection and preservation of cultural resources, including archaeological and paleontological sites, and encourage appropriate mitigation in the event of discovery during construction.

Relevant policies require protecting historic resources through avoidance or reduction of potential impacts, using the Secretary of the Interior's Standards for the Treatment of Historic Properties, and using the city's established historic preservation program for ensuring resource evaluation, protection, and integrity (Santa Clara 2010).

Appendix 8.9 of the General Plan, the Historic Preservation and Resource Inventory, established criteria for local significance and included a list of recorded historic properties (Santa Clara 2010). In addition, the city has embedded in its Municipal Code a section on Historic Preservation (Title 18 Zoning, Chapter 18.106, Historic Preservation). The purpose of Chapter 18.106 is "to promote the identification, protection, enhancement and perpetuation of buildings, structures and properties within the City that reflect special elements of the City's social, economical, historical, architectural, engineering, archaeological, cultural, natural, or aesthetic heritage" (Santa Clara 2018). The chapter requires maintenance of a Historic Resource Inventory.

Appendix 8.9 of the General Plan also identifies significance criteria for local listings. The City of Santa Clara's City Council adopted the Criteria for Local Significance on April 20, 2004 and incorporated the criteria into the General Plan Appendix 8.9. Any building, site, or property in the city that is 50 years old or older and meets certain criteria of architectural, cultural, historical, geographical, or archaeological significance is potentially eligible. The Criteria for Local Significance established in General Plan Appendix 8.9 (Santa Clara 2010) are as follows:

Criterion for Historical or Cultural Significance - To be historically or culturally significant, a property must meet at least one of the following criteria:

1. The site, building or property has character, interest, integrity and reflects the heritage and cultural development of the city, region, state, or nation.
2. The property is associated with a historical event.
3. The property is associated with an important individual or group who contributed in a significant way to the political, social and/or cultural life of the community.
4. The property is associated with a significant industrial, institutional, commercial, agricultural, or transportation activity.
5. A building's direct association with broad patterns of local area history, including development and settlement patterns, early or important transportation routes or social, political, or economic trends and activities. Included is the recognition of urban street pattern and infrastructure.
6. A notable historical relationship between a site, building, or property's site and its immediate environment, including original native trees, topographical features, outbuildings or agricultural setting.

Criterion for Architectural Significance - To be architecturally significant, a property must meet at least one of the following criteria:

1. The property characterizes an architectural style associated with a particular era and/or ethnic group.
2. The property is identified with a particular architect, master builder, or craftsman.
3. The property is architecturally unique or innovative.
4. The property has a strong or unique relationship to other areas potentially eligible for preservation because of architectural significance.
5. The property has a visual symbolic meaning or appeal for the community.
6. A building's unique or uncommon building materials or its historically early or innovative method of construction or assembly.
7. A building's notable or special attributes of an aesthetic or functional nature. These may include massing, proportion, materials, details, fenestration, ornamentation, artwork, or functional layout.

Criterion for Geographic Significance - To be geographically significant, a property must meet at least one of the following criteria:

1. A neighborhood, group, or unique area directly associated with broad patterns of local area history.
2. A building's continuity and compatibility with adjacent buildings and/or visual contribution to a group of similar buildings.

3. An intact, historical landscape or landscape features associated with an existing building.
4. A notable use of landscaping design in conjunction with an existing building.

Criterion for Archaeological Significance - For the purposes of CEQA, an "important archaeological resource" is one which:

1. Is associated with an event or person of
   a. Recognized significance in California or American history, or
   b. Recognized scientific importance in prehistory.
2. Can provide information, which is both of demonstrable public interest, and useful in addressing scientifically consequential and reasonable or archaeological research questions;
3. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
4. Is at least 100 years old and possesses substantial stratigraphic integrity; or
5. Involves important research questions that historical research has shown can be answered only with archaeological methods.

5.5.2 Applicant Proposed Measures

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).

5.5.3 Environmental Impacts and Mitigation Measures

Cultural Resources CEQA Checklist Questions

a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Construction

Less Than Significant Impact. No historic built environment resources meeting CEQA's criteria for historical resources are located in the PAA. No archaeological or ethnographic resources meeting CEQA's criteria for historical resources occupy the surface of the PAA. Previous studies and archaeological monitoring in the project vicinity, however, indicate that the PAA could harbor buried archaeological or ethnographic resources. The PAA is located between two waterways (San Tomas Aquino Creek and the Guadalupe River) on the former grounds of historic farms. Archaeologists working independently of the present analysis have estimated the PAA's likelihood to contain buried, prehistoric archaeological resources as moderate (Byrd et al. 2017, Figures 26–27).

The ground disturbance required to build the proposed project would extend into native soils up to 30 feet below grade. The PAA contains fill (nonnative) dirt from just below current grade to 2 feet below grade. The applicant also proposes to place additional fill onto the project site, increasing the thickness of fill in the PAA to 5 feet. (Mission College 2019a, page 103; Mission College 2020a, pages 25–26; Mission College 2020b, page 4) Therefore, the proposed project would involve excavation of native soils from about 5 to 30 feet below project grade. Known buried archaeological sites in Santa Clara Valley are located at depths of 1.0–10.5 feet below grade (Rehor and Kubal 2014, Table 4-1). If such resources were to be damaged during construction, it would be considered a significant impact, particularly since virtually all archaeological sites 5,000 years or older occur only in buried contexts.

The applicant, however, proposes to survey the exposed ground surface for cultural resources once demolition of existing structures is complete. Applicant-proposed project design measures also include test excavation to determine the presence or absence of buried cultural resources, as well as avoidance measures and construction monitoring (see **PD CUL-1** above). This measure would reduce impacts to any discovered historical resources to a less-than-significant level.

Operation and Maintenance

No Impact. Operation and maintenance of the proposed project would not require excavation or other ground-disturbance. Therefore, there would be no impact to historical resources as defined in CEQA Guidelines Section 15064.5.

Required Mitigation Measures: None.

b. Would the project cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?

Construction

Less Than Significant Impact. As discussed in the potential construction impacts for CEQA Checklist Question "a" above, the applicant's proposed measure **PD CUL-1** would reduce impacts to unique archaeological resources to a less-than-significant level.

Operation and Maintenance

No Impact. Operation and maintenance of the proposed project would not require excavation or other ground-disturbance. Therefore, there would be no impact to unique archaeological resources as defined in CEQA Guidelines Section 15064.5.

Required Mitigation Measures: None.

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Construction

Less Than Significant Impact. See staff's response to CEQA Checklist Question "a" and "b" above for construction. In addition, the applicant includes as a project design measure **PD CUL-2**, which describes a protocol to minimize or avoid impacts on inadvertently discovered human remains.

Operation and Maintenance

No Impact. Operation and maintenance of the proposed project would not require excavation or other ground-disturbance. Therefore, there would be no impact to human remains during operation and maintenance of the proposed project.

Required Mitigation Measures: None.

Tribal Cultural Resources CEQA Checklist Questions

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

Construction

No Impact. There are no tribal cultural resources listed or eligible for listing in the CRHR or other state registers, NRHP, or local register of historical resources in the PAA, therefore no impacts would occur during construction.

Operation and Maintenance

No Impact. Ground-disturbing activities are not part of the operational or maintenance profile of the proposed project. Impacts on tribal cultural resources listed or eligible for listing in the CRHR or other state registers, NRHP, or local register of historical resources would therefore not occur during operation or maintenance.

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Construction

Less Than Significant Impact. Although there are no known tribal cultural resources on or directly adjacent to the proposed site, ground disturbance associated with the proposed project could result in the exposure and destruction of buried, as-yet unknown prehistoric archaeological resources that could qualify as tribal cultural resources. If these resources were to be exposed or destroyed, it would be a significant impact. Implementation of **PD CUL-1** and **PD CUL-2** would reduce impacts on buried, tribal cultural resources to a less than significant level (see Cultural Resources CEQA Checklist Questions "a" and "b" above).

Operation and Maintenance

No Impact. Ground-disturbing activities are not part of the operational or maintenance profile of the proposed project. Impacts on tribal cultural resources listed or eligible for listing in the CRHR or other state registers, NRHP, or local registers of historical resources would therefore not occur during operation and maintenance.

Required Mitigation Measures: None.

5.5.4 References

Baker 1998 - Susan Baker. *Archaeological Survey, San Tomas Aquino/Saratoga Creek Trail Project, Santa Clara County, California*. On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park. Study S-022570. July 1998

Bitters 2019 - Janice Bitters, "Charles Davidson's Contributions to Silicon Valley are Unparalleled." *San José Spotlight* (October 29, 2019). Accessed March 10, 2020. Electronic document, https://sanjosespotlight.com/charles-davidsons-contributions-to-silicon-valley-are-unparalleled/

Busby et al. 1996a - Colin I. Busby, Donna M. Garaventa, Melody E. Tannam, and Stuart A. Guedon, *Historic Properties Treatment Plan, South Bay Water Recycling Program*. Revised. Prepared for Parsons Engineering Science, Alameda, CA. On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park. Study S-019072. Prepared by Basin Research Associates, San Leandro, CA, July 1996

Busby et al. 1996b - Colin I. Busby, Donna M. Garaventa, Melody E. Tannam, and Stuart A. Guedon, *Supplemental Report: Historic Properties Affected or Potentially Affected by the South Bay Water Recycling Program*. Prepared for Parsons Engineering Science, Alameda, CA. On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park. Study S-019072a, June 1996

Byrd et al. 2017 - Brian F. Byrd, Adrian R. Whitaker, Patricia J. Mikkelsen, and Jeffrey S. Rosenthal, *San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4*. Prepared for Office of Cultural Resources Studies, District 4, California Department of Transportation, Oakland. On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park. Study S-049780. June 2017

CEC 2017 - California Energy Commission, *Tribal Consultation Policy*. Revised. December 2017. Sacramento, CA. CEC-700-2017-002-D. Accessed March 10, 2020. Electronic document, https://www.energy.ca.gov/sites/default/files/2020-01/2017CEC_Tribal_Consultation_Policy_ADA.pdf

Charles W. Davidson Co. 1972 - Charles W. Davidson Co., "Tract No. 5139" in Santa Clara County *Tract Map Book 305*, pp. 4–7. Santa Clara, CA, 1972

Davis 1961 - James T. Davis, *Trade Routes and Economic Exchange among the Indians of California*. Report No. 54. Berkeley: University of California Archaeological Survey, March 31, 1961

Draper 1949 - W. Marvin Draper, Owens-Corning Fiberglass Plant, Santa Clara, CA, 1949. May 5. Aerial photograph. W. Marvin Draper Collection, Santa Clara City Library. Electronic Document. Available online at: https://oac.cdlib.org/ark:/13030/kt9s2024bv/?brand=oac4, accessed March 10, 2020

EDR 2017a - Environmental Data Resources, EDR Historical Topo Map Report with QuadMatch™. May 17. Shelton, CT. Inquiry Number 4940607.4. Prepared for Vishay Siliconix, Santa Clara, CA. Appendix C to *Phase I Environmental Site Assessment, 2201 Laurelwood Road, Santa Clara, California*, by Cornerstone Earth Group. Project No. 1075-1-1. Prepared for MECP1 Santa Clara 1, LLC. November 26, 2018

EDR 2017b - Environmental Data Resources, The EDR Aerial Photo Decade Package. May 18. Shelton, CT. Inquiry Number 4940607.12. Prepared for Vishay Siliconix, Santa Clara, CA. Appendix C to *Phase I Environmental Site Assessment, 2201 Laurelwood Road, Santa Clara, California*, by Cornerstone Earth Group. Project No. 1075-1-1. Prepared for MECP1 Santa Clara 1, LLC. November 26, 2018

Edward Denny & Co. 1913 - Edward Denny & Co. Map Publishers, *Denny's Pocket Map, Santa Clara County, California*

Fike 2016 - Aisha Fike, *651 Mathew Street*. California Department of Recreation Primary Record Form. October 25. ICF international. Prepared for the City of Santa Clara

GLO 1866 - General Land Office, Survey Plat of Township No. 6 South, Range No. 1 West, Mount Diablo Meridian. May 12. San Francisco, CA. Surveyed 1851, 1853, 1857–1862, 1865–1866

Golla 2007 - Victor Golla, Linguistic Prehistory. Chapter 6 in *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 71–82. Lanham, MD: Altamira, 2007

Historic Aerials n.d., - Historic Aerials. Online Map Viewer. Accessed March 9, 2020. https://www.historicaerials.com/viewer

Hylkema 1994 - Mark G. Hylkema, Tamien Station Archaeological Project. In *The Ohlone Past and Present: Native Americans of the San Francisco Bay Region*, compiled and edited by Lowell J. Bean, pp. 249–270. Anthropological Papers No. 42. Menlo Park, CA: Ballena Press, 1994

Hylkema 1998 - Mark G. Hylkema, *Extended Phase I Archaeological Survey Report: Subsurface Presence/Absence Testing at the Woolen Mills Chinatown Site (CA-SCL-807/H) and Three Storm Water Detention Basins, for the Route 87*

Guadalupe Corridor Freeway Project, City of San Jose, Santa Clara County, California. 04-SCL-87 PM 6.3/9.4, 04-SCL-101 PM 40.2/41.2. On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park. Study S-020327. Office of Environmental Planning, South, District 4, California Department of Transportation, Oakland, May 8, 1998

Jones et al. 2007 - Terry L. Jones, Nathan E. Stevens, Deborah A. Jones, Richard T. Fitzgerald, and Mark G. Hylkema, The Central Coast: A Midlatitude Milieu. Chapter 9 in *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 125–146. Lanham, MD: Altamira, 2007

Kroeber 1976 - A. L. Kroeber, *Handbook of the Indians of California*. Originally published in 1925, Bulletin No. 78, Bureau of American Ethnology, Smithsonian Institution, Washington, D.C. Reprinted. New York, NY: Dover Publications, 1976

Le 2019 - Maria Le, "Temporary Closure of Santa Clara Fire Station 8 for Renovations." Accessed March 9, 2020. Electronic Document: https://nextdoor.com/agency-post/ca/santa-clara/city-of-santa-clara/temporary-closure-of-santa-clara-fire-station-8-for-renovations-115830350/

Lehmann 2000 - Susan Lehmann, Economic Development of the City of Santa Cruz, 1850-1950. From: *Fully Developed Context Statement for the City of Santa Cruz*. Prepared for the City of Santa Cruz Planning and Development Department. Chapter 3, Context I: Economic Development of the City of Santa Cruz 1850-1950, pp. 25-27. Accessed March 9, 2020. Electronic Document: https://history.santacruzpl.org/omeka/items/show/134510#?c=0&m=0&s=0&cv=0

Levy 1978 - Richard Levy, Costanoan. In *California*, edited by Robert F. Heizer, pp. 485–495. Handbook of North American Indians, vol. 8, William C. Sturtevant, ed. Washington, D.C.: Smithsonian Institution, 1978

McAlester 2015 - Virginia S. McAlester, *A Field Guide to American Houses*. New York: Alfred A. Knopf, 2015

MapSantaClara n.d. - City of Santa Clara, *MapSantaClara*. City of Santa Clara, CA: City of Santa Clara, n.d. City of Santa Clara Public Web Map. Accessed March 9, 2020. https://map.santaclaraca.gov/public/index.html?viewer=regional

Milliken et al. 2007 - Randall Milliken, Richard T. Fitzgerald, Mark G. Hylkema, Randy Groza, Tom Origer, David G. Bieling, Alan Leventhal, Randy S. Wiberg, Andrew Gottsfield, Donna Gillette, Viviana Bellifemine, Eric Strother, Robert Cartier, and David A. Fredrickson, Punctuated Culture Change in the San Francisco Bay Area. Chapter 8 in *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 99–123. Lanham, MD: Altamira, 2007

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2019b **-** Application for Small Power Plant Exemption: Mission College Data Center, Appendices A-C, dated November 2019. (TN 230844-47). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020a - Response to CEC staff data request set 1 (1-59), Mission College Backup Generating Facility (19-SPPE-05), February 2020 (TN 231960 and 232047). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020b - Response to CEC staff data request set 2 (60-63), Mission College Backup Generating Facility (19-SPPE-05), February 27, 2020 (TN 232246). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

NAHC 2019 - Native American Heritage Commission, Email Regarding Sacred Lands File Request. Submitted to California Energy Commission, Sacramento, California from Native American Heritage Commission, West Sacramento, California. December 10, 2019

OHP 1995 - Office of Historic Preservation, *Instructions for Recording Historical Resources*. Sacramento, CA: Office of Historic Preservation, March 1995

Oosterhous et al. 2002 - Kara Oosterhous, Franklin Maggi, and Leslie A. G. Dill, *Historical and Architectural Evaluation: 4423 Cheeney Street, Santa Clara, County of Santa Clara, California*. Prepared for Lauson Fargher, Santa Clara, CA. On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park. Study S-026095. Dill Design Group, Los Gatos, CA, September 17, 2002

Parsons and KEMCO 1983 - Parsons Brinckerhoff Quade & Douglas and Kobori Environmental Management Corp, *Data Recovery Plan for the Guadalupe Corridor Transportation Project, Santa Clara County, California*. Prepared for Santa Clara County Transportation Agency. On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park. Study S-006066. February 1983

Rehor and Kubal 2014 - Jay Rehor and Kathleen Kubal, *Extended Phase I Study: US 101 Express Lands Project, Santa Clara County, California*. Prepared for District 4, Department of Transportation, State of California, Oakland, and Santa Clara Valley Transportation Authority, San Jose, CA. US PM 16.0/52.55, SR 85 PM 23.0/R24.1. Project No. 0412000459. EA 2G7100. On file, Northwest Information Center, California Historical Resources Information System, Rohnert Park. Study S-045670c. URS Corporation, Oakland, CA, April 2014

Ruby et al. 1992 - Allika Ruby, Jason Bass, and Mike Kelley, *Evaluation of Archaeological Resources for the San Jose/Santa Clara Nonpotable Water Reclamation Project*. Prepared for Engineering Science, Alameda, CA. Project #60800-92-62. On file, Northwest Information Center, California Historical

Resources Information System, Rohnert Park. Study S-014230. Prepared by Archaeological Resource Management, San Jose, CA. May 11, 1992

Santa Clara n.d. - City of Santa Clara, Smart Permit Search. Accessed March 9, 2020. Online Database. https://smartpermit.santaclaraca.gov:8443/apps/cap_sc/#/lookup

Santa Clara 2010 - City of Santa Clara, *City of Santa Clara General Plan 2010-2035*. Adopted on: November 16, 2010. Accessed on: February 28, 2020. Available at: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan

Santa Clara 2015 - County of Santa Clara, *Heritage Resource Inventory*. June 12, 2015

Santa Clara 2018 - City of Santa Clara, City Code, Title 18 Zoning, Chapter 18.106 Historic Preservation. Accessed on: March 4, 2020. Available online at: http://www.codepublishing.com/CA/SantaClara/#!/santaclara18/SantaClara18106.html#18.106.030

Santa Clara County 2012 - County of Santa Clara Department of Planning and Development, Planning Office, *County of Santa Clara Historic Context Statement*. December 2004, Revised February 2012

Santa Clara Fire Department 1999 - Santa Clara Fire Department, *Santa Clara Fire Department 50 Years of Professional Service 1949 to 1999*. City of Santa Clara, California, 1999. Accessed March 6, 2020. Electronic document. https://view.publitas.com/st-clare-hook-ladder-historical-society/scfd-history-book-1949-1999/page/1

SFEI 2010 - San Francisco Estuary Institute (SFEI), *Historical Vegetation and Drainage Patterns of Western Santa Clara Valley: A Technical Memorandum Describing Landscape Ecology in Lower Peninsula, West Valley, and Guadalupe Watershed Management Areas*. Historical Ecology Program, Contribution No. 622

Shipley 1978 - William F. Shipley, Native Languages of California. In *California*, edited by Robert F. Heizer, pp. 80–90. Handbook of North American Indians, vol. 8, William C. Sturtevant, ed. Washington, D.C.: Smithsonian Institution, 1978

USGS 1899 - United States Geological Survey, San Jose, California, Sheet. 15-minute Topographic Series. March. Surveyed 1895

USGS 1915 - United States Geological Survey, Geologic and Topographic Map of the Coast Route

5.6 Energy and Energy Resources

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to energy. In addition, this section includes staff's analysis of the project's potential impact on Energy Resources, as required by Public Resources Code section 25541 when considering a Small Power Plant Exemption.

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

Environmental checklist established by CEQA Guidelines, Appendix G.

5.6.1 Setting

The MCDC would include 43 2.5-MW diesel-fired standby generators (gensets) (four of which would be redundant) that would be used to provide backup power supply to support an uninterruptible power supply exclusively for the project (Mission College 2019a). In addition, the project would include two life safety emergency generators capable of generating 600 KW each, to support fire suppression and other emergency operations. The gensets would serve MCDC only during times when electric service from Silicon Valley Power (SVP) is interrupted. The backup generators would be electrically isolated from the SVP electrical transmission grid with no means to deliver electricity offsite.

The 43 gensets would each be a Caterpillar Model D3516C with a peak rated output capacity of 2.5 MW and a continuous steady-state output capacity of 1.75 MW, and fuel consumption rate of 175 gallons per hour (gal/hr) at full load (Mission College 2019a). The two 600 KW fire suppression generators would each be a Caterpillar Model C18 with fuel consumption rate of 42.7 gal/hr at full load. Staff has verified the output capacity and rate of fuel consumption of these generators from their product sheets (Mission College 2019a - Appendix AQ-2). The maximum electrical load requirement of the MCDC would be 78.1 MW, which includes the electrical power load of the Information Technology (IT) servers, the cooling load of the data center buildings as well as the facility's ancillary loads. See **Section 4.0 Project Description** for further information. For the purposes of testing and maintenance, only one generator would operate at any given time.

Regulatory Background

Federal

Energy Star and Fuel Efficiency. At the federal level, energy standards set by the Environmental Protection Agency (EPA) apply to numerous consumer products and appliances. The EPA also sets fuel efficiency standards for automobiles and other modes of transportation.

State

Title 24, California Energy Efficiency Standards for Residential and Nonresidential Buildings—California Green Building Code (2019). The California Green Building Code applies to newly constructed buildings and requires installation of energy-efficient indoor infrastructure.

Senate Bill 100 (SB 100)—The 100 Percent Clean Energy Act of 2018. SB 100 declares that the Public Utilities Commission, California Energy Commission, and State Air Resources Board should plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. This requirement applies to SVP, which would be the primary source of electricity supply for MCDC.

Local

City of Santa Clara Climate Action Plan. The city's Climate Action Plan (CAP) sets goals for the city to achieve its share of statewide emissions reductions for the 2020 timeframe established by the Global Warming Solution Act (Assembly Bill 32). The CAP was adopted on December 3, 2013 and it specifies the strategies and measures to be taken for a number of focus areas, one of which is energy efficiency. To achieve the goals set in the CAP, the city adopted some policies in its 2010-2035 General Plan as discussed below. Beyond 2020, the CAP sets goals to further reduce emmisions with the 2035 Reach Measures[1] which is based on Executive Order S-3-05.

City of Santa Clara General Plan Land Use Policies—Santa Clara's 2010–2035 Master Plan. This plan provides a comprehensive view of the city's planned development to mid-century goals and policies which relate to energy and sustainability to guide land use development within the city. These goals and policies are promulgated by the Santa Clara General Plan 2010–2035 (Santa Clara 2010), addressing energy conservation, renewable power systems, and efficient use of fuel. The following goals and policies are relevant to the MCDC:

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

1 2035 Reach Measures: 55% reduction of greenhouse gas emissions below baseline (1990) levels.

- **Policy 5.10.3-P3:** aims to reduce energy consumption through sustainable construction practices, materials and recycling.
- **Policy 5.10.3-P4:** the goal of this policy is to promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.
- **Policy 5.10.3-P6:** to provide incentives for development that meets certification requirements for energy efficient design.

For a more detailed discussion, refer to City of Santa Clara Climate Action Plan dated December 3, 2013: (http://santaclaraca.gov/home/showdocument?id=1017).

5.6.2 Applicant Proposed Measures

None.

5.6.3 Environmental Impacts and Mitigation Measures

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

Construction

Less Than Significant Impact. Construction activities would consume nonrenewable energy resources, primarily fossil fuels (oil, gasoline, and diesel), for construction equipment and vehicles. It is anticipated that these nonrenewable energy resources would be used efficiently during construction activities and would not result in long-term significant depletion of these energy resources or permanently increase the project's reliance on them.

The project would implement measures to minimize the idling of construction equipment (see **Section 5.3 Air Quality**). This would ensure that fuel consumed during construction would not be wasted through unnecessary idling or operation of poorly maintained 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 (Mission College 2019a, section 4.6.2). Diversion saves energy by reusing and recycling materials for other uses (instead of landfilling materials and using additional non-renewable resources).

Therefore, construction of the project would not have a significant adverse effect on local and regional energy supplies and would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources.

Operation and Maintenance

Less Than Significant Impact. The total number of hours of operation for reliability purposes (i.e.; readiness testing and maintenance) for the generators is limited to no more than 50 hours per generator annually (Mission College 2019a, section 2.4). At this rate, the total quantities of diesel fuel used for all the generators operating at full load would be approximately 9,060 barrels per year (bbl/yr)[2]. California has a diesel fuel supply of approximately 341,036,000 bbl/yr.[3] The project's use of fuel constitutes a small fraction (less than 0.0027 percent) of available resources and the supply is more than sufficient to meet necessary demand. For these reasons, the project's use of fuel is less than significant.

It is important to note that maintenance and readiness testing of the gensets are crucial to the project's viability. The most important data center criterion is reliability. Crucial services such as the 911, Offices of Emergency Management, and utilities infrastructure are increasingly using data centers for their operation. Reliability and data security requirements of a data center would be compromised by limiting or reducing fuel consumption for the purpose of maintenance and readiness testing. This includes the primary gensets as well as the redundant ones. Even though the redundant gensets are purposed to provide backup service to the rest of the gensets, their operational reliability is equally important. If any of the primary gensets fails to operate, a redundant genset must be ready to run to take up the lost load. So, it is crucial that the redundant gensets be regularly tested and maintained according to the same testing and maintenance requirements as the primary ones and as prescribed by the manufacturer's warranty conditions. The use of nonrenewable fuel for the generators for readiness testing and maintenance would not be unnecessary, inefficient, or wasteful.

The standby generators would use nonrenewable resources (diesel and lubricating oils). However, the use of the standby generators for emergency purposes would be limited to times when there is an interruption of SVP's electric service. Under emergency conditions, defined as the loss of electrical power to the data center, which are infrequent and short-duration events, the generators could operate and use nonrenewable resources, as necessary, to maintain data center operations. The Caterpillar genset models selected for this project have an efficiency rating comparable to other commercially available diesel-fueled generators of similar generating capacity.

2 Calculated as: (175 gal/hr x 50 hours per year x 43 generators) + (42.7 gal/hr x 50 hours per year x 2 generators) = 380,520 gallons per year = 9,060 bbl/yr.

3 This is the sum of the annual production of 141,771,000 bbl and available stocks of 199,266,000 bbl obtained from the Energy Commission's Weekly Fuels Watch Report for 2019 (latest annual report available).

Power Usage Effectiveness (PUE) is a metric used to compare the efficiency of facilities that house computer servers. It is a common metric for determining how effectively a data center's infrastructure systems can deliver power to the computer systems it houses. PUE was published in 2016 as a global standard under the International Organization for Standardization and the International Electrotechnical Commission[4] as well as the European Standards[5]. It is defined as the ratio of total facility energy draw (including the facility's mechanical and electrical loads) to IT server electrical power draw (PUE = total facility source energy [including the IT source energy]/IT source energy). This approach to calculating a data center's energy efficiency is similar to the American Society of Heating, Refrigerating, and Air-conditioning Engineers (ASHRAE) Energy Standard for Data Centers (ASHRAE 90.4). However, there is a notable difference. ASHRAE 90.4 intends to tackle and regulate lower performers. Its method of calculating energy efficiency provides an alternative path that allows tradeoffs between mechanical and electrical loads particularly within existing, older data centers, while the PUE is a more appropriate path to determining a new data center's energy efficiency.

A PUE of 2 means that the data center must draw two watts of electricity for each watt of power consumed by the IT server equipment. While the PUE is always greater than 1, the closer it is to 1, the greater the portion of the power drawn by the facility that goes to the IT server equipment.

The PUE has been used as a guideline for assessing and comparing energy and power efficiencies associated with data centers since 2007 (ASHRAE 2016). It has to be noted that the PUE metric was designed to compare facilities of similar size and within similar climatic conditions. PUE factors started around 2.0, but values have since been migrating down to 1.25 or lower, demonstrating a significant improvement over the years. A facility with a PUE of 1.5-2.0 is considered "efficient", while one with a PUE of 1.2-1.5 is considered "very efficient". The peak PUE for MCDC would be 1.11 (Mission College 2019a, section 2.2.3.1). This peak operation PUE estimate is based on design assumptions and represents worst case; that is, the hottest day with all server bays occupied and all servers operating at 100 percent capacity.

Measure 2.3 of the CAP encourages completion of a feasibility study of energy efficient practices for new data center projects with an average rack power rating[6] of 15 kilowatts or more to achieve a PUE of 1.2 or lower.[7] The maximum PUE of the MCDC

4 ISO/IEC 30134-2:2016

5 EN 50600-4-2:2016

6 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 more energy use per square foot of building area in a data center.

7 This language in Measure 2.3 remains the same beyond the year 2020.

would be 1.11, which is within Measure 2.3's goal of a PUE of 1.2 or lower (Mission College 2019a, page 118) and thus, a feasibility study does not need to be considered.

The project would be built in accordance with the 2019 California Green Building Code and would include green building measures to reduce energy consumption (Mission College 2019a, pages 100-101). Examples of these measures include:

- limiting mechanical refrigeration needs and lowering the required refrigerant volume;
- transferring waste heat from the servers to occupied areas of the building;
- utilizing lighting control to reduce energy usage for exterior lighting;
- air economization[8] integrated into the central air handling system for building cooling;
- Cool Roof, using reflective surfaces to reduce heat gains; and
- building insulation.

Due to the project's location and the intermittent and unpredictable nature of a data center's operational load requirements, in addition to the unpredictability of when the backup generators would have to run, the use of renewable generation sources (wind/hydroelectric/solar) on their own would not satisfy MCDC's need for reliable standby generation. The space and resource requirements for 78.1 MWs of renewable power and their dependence on natural conditions (i.e., availability of wind or solar energy) make such applications infeasible for this project and site. Renewable generation resources, such as solar or wind, coupled with battery installation,[9] would require significantly more space than that used by the standby generators, and would not fit on the current project site. Current commercial fuel cells are generally limited to lower energy density gaseous fuels such as natural gas or hydrogen, with their inherent storage problems related to space and safety. Furthermore, gas-fired engines are too slow to start in such a short time as needed by the data center to prevent loss of data and also they are subject to fuel supply interruptions, therefore, they are not a suitable alternative for use by data centers.

The MCDC's consumption of energy resources during operation would not be inefficient or wasteful. Project operation would not have a significant adverse effect on local or regional energy supplies and would not create a significant adverse impact on energy resources.

8 An air economizer is a ducting arrangement, including dampers, linkages, and an automatic control system that allows a cooling supply fan system to supply outside air to reduce or eliminate the need for mechanical cooling.

9 For example, 80 MW of PV would require about 200 acres of panels. This does not account for additional PV panels to allow simultaneous use of the electricity generation while charging the storage needed to extend the "day" since the data center operates 24/7.

Required Mitigation Measures: None.

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

Construction, Operation and Maintenance

No Impact. During operation, MCDC would use both nonrenewable energy resources and renewable energy resources in SVP's portfolio of resources. As of December 31, 2017, the SVP power mix was composed of approximately 38 percent eligible renewable resources, 34 percent large hydroelectric, and 28 percent nonrenewable sources (SVP 2017). In addition, SVP's 2018 Integrated Resource Plan identified that it expects to exceed 50 percent eligible renewable resources in its portfolio by 2030 (SVP 2018). As SVP procures more renewable energy for its portfolio, less nonrenewable energy sources will be needed and therefore less nonrenewable power would be provided to MCDC. In addition, the City of Santa Clara and SVP have adopted what is referred to as "Reach Codes," which are local energy targets that "reach" beyond the state minimum requirements for energy use in building design and construction (SVP 2020).

MCDC would receive electricity from SVP, which is on track to meet the requirements of SB 100. SVP has committed to meeting California's Renewable Portfolio Standard through its 100-percent renewable energy program, the Santa Clara Green Power Program (Santa Clara 2018). For commercial customers, SVP offers several options for participation in green energy programs, including a carbon-free energy option (SVP 2018). Power usage by the project would be consistent with SB 100.

The project's quantities of diesel fuel is a significant departure from typical power generating facilities that use fossil fuels as their primary source of energy, as the MCDC's gensets would operate only during testing and during emergencies when the primary source of energy to operate the project, electricity from SVP, is cut off. The project's use of diesel fuel would not obstruct SVP's ability to meet the requirements of SB 100.

The project would participate in the city's Construction and Demolition Debris Recycling Program and implement measures to promote walking, bicycling, and transit use, thereby reducing motor vehicle use. Through the city's design review process, MCDC would be required to comply with the California Green Building Code and the city's General Plan Land Use Policies related to energy—Santa Clara's 2010–2035 Master Plan, which are consistent with the EPA's Energy Star and Fuel Efficiency program.

Through energy efficient design and increased renewable electricity use, the project would neither conflict with, nor obstruct state or local plans for renewable energy or energy efficiency, and therefore would have no adverse impact on them.

5.6.4 References

ASHRAE 2016 - American Society of Heating, Refrigerating, and Air-conditioning Engineers ASHRAE Journal. Article: Supercomputers, Super Efficiency, pp. 38-39. Published in January 2016

Mission College 2019a - Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Santa Clara 2010 - City of Santa Clara (Santa Clara). 2010–2035 General Plan. Adopted November 2010. Available online at: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan

Santa Clara 2013 - City of Santa Clara (Santa Clara). Santa Clara Climate Action Plan. Adopted December 2013. Available online at: https://www.santaclaraca.gov/home/showdocument?id=10170

Santa Clara 2018 - City of Santa Clara (Santa Clara). Green Power Program, 2018. Available online at: http://www.siliconvalleypower.com/solar-and-green-power/santa-clara-green-power

SVP 2017 - Silicon Valley Power (SVP). 2017 Power Content Label. Available online at: http://www.siliconvalleypower.com/svp-and-community/about-svp/power-content-label

SVP 2018 - Silicon Valley Power (SVP). 2018 Integrated Resource Plan for Silicon Valley Power. November 12, 2018. Available online at: http://www.siliconvalleypower.com/home/showdocument?id=62481. https://www.siliconvalleypower.com/sustainability/santa-clara-green-power/green-power-for-your-business

SVP 2020 - Silicon Valley Power. Building Electrification and Electric Vehicle Reach Codes. Accessed March 25, 2020. Online at: https://www.siliconvalleypower.com/sustainability/commitment-to-renewable-energy/building-electrification-and-electric-vehicle-reach-codes

5.7 Geology and Soils

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to geology and soils.

GEOLOGY AND SOILS **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Section 1803.5.3 of the California Building Code (2010), creating substantial direct or indirect risks to life or property?*	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

*Geology and Soils question (d) reflects the current 2019 California Building Code (CBC), effective January 1, 2020, which is based on the International Building Code (2018).

Environmental checklist established by CEQA Guidelines, Appendix G.

5.7.1 Setting

Analysis of existing data included reviews of publicly available literature, maps, air photos, and documents presented with the application. An online database search was performed to identify previously reported paleontological resources near the project site. The geologic map review of the project area included maps published by the U.S. Geological Survey (Helley and Wesling 1989; Wesling and Helley 1989, and Helley et al. 1994). The literature reviewed included published and unpublished scientific papers. A paleontological record search of the University of California Museum of Paleontology, Berkeley online paleontological database was conducted for the disturbed project areas, including a 10-mile buffer zone surrounding the proposed data center (UCMP 2020).

Paleontological Sensitivity

The potential for paleontological resources to occur in the project area was evaluated using the federal Potential Fossil Yield Classification (PFYC) system developed by the Bureau of Land Management (BLM 2016). Because of its demonstrated usefulness as a resource management tool, the PFYC has been utilized for many years for projects across the country, regardless of land ownership. It is a predictive resource management tool that classifies geologic units based on their likelihood to contain paleontological resources on a scale of 1 (very low potential) to 5 (very high potential) or Unknown. This system is intended to aid in predicting, assessing, and mitigating impacts to paleontological resources. The PFYC ranking system is summarized in **Table 5.7-1**.

TABLE 5.7-1: POTENTIAL FOSSIL YIELD CLASSIFICATION

BLM PFYC Designation	Assignment Criteria Guidelines and Management Summary
1 Very Low Potential	Geologic units are not likely to contain recognizable paleontological resources.
	Units are igneous or metamorphic, excluding air-fall and reworked volcanic ash units.
	Units are Precambrian in age.
	Management concern is usually negligible, and impact mitigation is unnecessary except in rare or isolated circumstances.
2 Low	Geologic units are not likely to contain paleontological resources.
	Field surveys have verified that significant paleontological resources are not present or are very rare.
	Units are generally younger than 10,000 years before present.
	Recent aeolian deposits.
	Sediments exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely.
	Management concern is generally low, and impact mitigation is usually unnecessary except in occasional or isolated circumstances.
3 Moderate Potential	Sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence.
	Marine in origin with sporadic known occurrences of paleontological resources.
	Paleontological resources may occur intermittently, but these occurrences are widely scattered.
	The potential for authorized land use to impact a significant paleontological resource is known to be low-to-moderate.

TABLE 5.7-1: POTENTIAL FOSSIL YIELD CLASSIFICATION

BLM PFYC Designation	Assignment Criteria Guidelines and Management Summary
	Management concerns are moderate. Management options could include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Opportunities may exist for hobby collecting. Surface-disturbing activities may require sufficient assessment to determine whether significant paleontological resources occur in the area of a proposed action and whether the action could affect the paleontological resources.
4 High Potential	Geologic units that are known to contain a high occurrence of paleontological resources.
	Significant paleontological resources have been documented but may vary in occurrence and predictability.
	Surface-disturbing activities may adversely affect paleontological resources.
	Rare or uncommon fossils, including invertebrate (such as soft body preservation) or unusual plant fossils, may be present.
	Illegal collecting activities may impact some areas.
	Management concern is moderate to high depending on the proposed action. A field survey by a qualified paleontologist is often needed to assess local conditions. On-site monitoring or spot- checking may be necessary during land disturbing activities. Avoidance of known paleontological resources may be necessary.
5 Very High Potential	Highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources.
	Significant paleontological resources have been documented and occur consistently.
	Paleontological resources are highly susceptible to adverse impacts from surface disturbing activities.
	Unit is frequently the focus of illegal collecting activities.
	Management concern is high to very high. A field survey by a qualified paleontologist is almost always needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.
U Unknown	Geologic units that cannot receive an informed PFYC assignment.
	Geological units may exhibit features or preservation conditions that suggest significant paleontological resources could be present, but little information about the actual paleontological resources of the unit or area is known.
	Geologic units represented on a map are based on lithologic character or basis of origin, but have not been studied in detail.
	Scientific literature does not exist or does not reveal the nature of paleontological resources.
	Reports of paleontological resources are anecdotal or have not been verified.
	Area or geologic unit is poorly or under-studied.
	BLM staff has not yet been able to assess the nature of the geologic unit.
	Until a provisional assignment is made, geologic units with unknown potential have medium to high management concerns. Field surveys are normally necessary, especially prior to authorizing a ground-disturbing activity.

Source: Summarized and modified from BLM 2016

Regional Geologic Setting

The proposed project is situated in the Southern Coastal Ranges geomorphic province (**Figure 5.7-1**). The division between the Northern and Southern Coastal Ranges is one of convenience. Both provinces contain many elongate ranges and narrow valleys that are approximately parallel to the coast, although the coast trends in a slightly more northerly direction, than the ridges and valleys, except at San Francisco Bay where a pronounced gap separates the two provinces (Norris and Webb 1990). The differences between the two provinces occur because the Northern Ranges lie east of the San Andreas Fault zone, whereas the Southern Ranges predominantly lie to the west (Norris and Webb 1990). The two Ranges have dissimilar basement rocks. The Northern Range and portions of the Southern Range east of the San Andreas Fault zone are underlain by strongly deformed Franciscan subduction complex rocks, and the areas west of the San Andreas Fault zone, in both the Northern Range and Southern Range, are underlain by a strongly deformed granitic-metamorphic complex known as the Salinian block. The basement rock beneath the project site, which lies east of the San Andreas Fault zone consists of Franciscan Complex rocks (Norris and Webb 1990).

Local Geology and Soils

Figure 5.7-2 depicts the surficial geology in the vicinity of the project. The project site is in the Santa Clara Valley, a relatively broad and level alluvial basin, bounded by the San Francisco Bay to the north, the Santa Cruz Mountains to the west and southwest, and the Diablo Mountain Range to the east and southeast. The Santa Clara Valley's basin contains alluvial deposits derived from the Diablo Range and the Santa Cruz Mountains.

The majority of the project site is underlain by Holocene age (less than 11,000 years old) basin deposits (Qhb) (**Figure 5.7-2**). The basin deposits consist primarily of estuarine deposits of the Alameda Formation and younger alluvial fans. Alluvial deposits are interbedded with bay and lacustrine (lake) deposits in the north-central region. The valley sediments were deposited as a series of coalescing alluvial fans by streams that drain the adjacent mountains. These alluvial sediments make up the groundwater aquifers of the area.

Figure 5.7-3 depicts the surficial soil units at and near the project site. Soil types in the area include clay in the low-lying central areas, loam and gravelly loam in the upper portions of the valley, and eroded rocky clay loam in the foothills. The soil at the site is classified as Urbanland and Urbanland-Campbell complex by the U.S. Department of Agriculture (NRCS 2019). The average grade of the valley floor ranges from nearly horizontal to about two percent generally down to the northwest (NRCS 2019; Santa Clara 2011).

The uppermost layer of soil encountered at the site consists of 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 (Mission College 2019a).

Expansive soil can undergo volume changes with changes in moisture content. Specifically, when wetted during the rainy season expansive soil tends to swell, and when dried during the summer months the material shrinks. The project site is located on expansive soil as defined in Section 1803.5.3 of the CBC (Mission College 2019a). However, expansive soil can be mitigated through removal or mixing with non-expansive soil.

Holocene age sediments in this area have low potential to yield fossil resources or to contain significant nonrenewable paleontological resources. However, these recent sediments overlie older, Pleistocene age sediments that have a high-potential to contain paleontological resources (Mission College 2019a). These older sediments, often found at depths of ten feet or more, 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 (Santa Clara 2010). Excavation for utilities would extend to depths of up to 12 feet below the new base elevation and drilling of auger cast foundation piles will extend to roughly 30 feet below the new base elevation (Mission College 2020a).

○ City/Town/Populated Place

E-Eureka	F-Fresno	N-Needles
R- Redding	B-Bakersfield	K-Kelso
S-Sacramento	SB-Santa Barbara	SD-San Diego
SF-San Francisco	LA-Los Angeles	
M-Monterey	PS-Palm Springs	

Figure 5.7-1
Geomorphic Provinces

Sources: California Department of Conservation, California Geological Survey, 2002

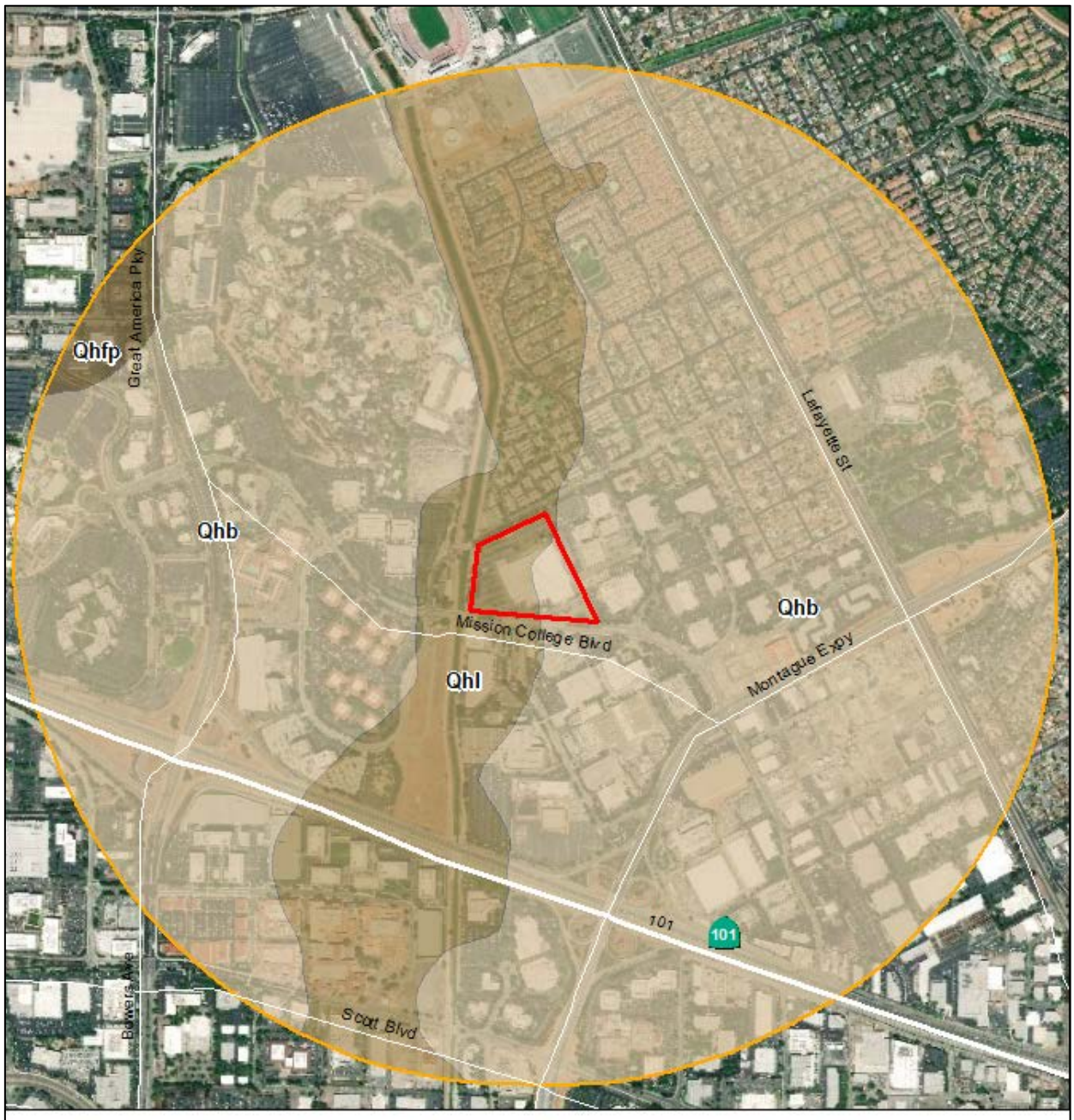


Figure 5.7-2
Surficial Geology

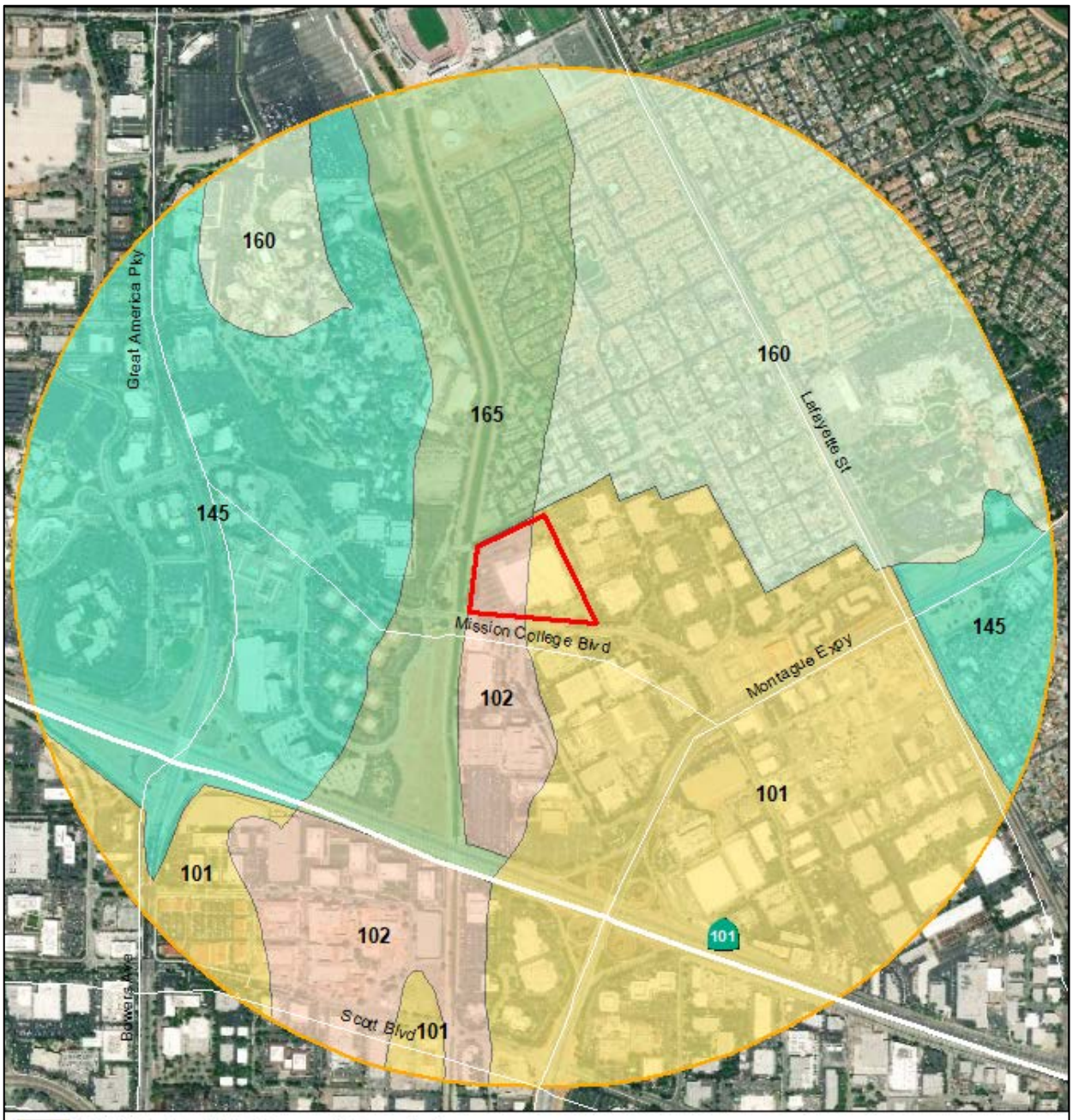


Figure 5.7-3
Surface Soil Map

There are no unique geologic features on or adjacent to the project site. The topography of the project site is relatively flat with a slight downward slope to the northeast. The elevation across the site ranges from 19 to 25 feet above the North American Vertical Datum (NAVD88) with an average of about 20 feet (Mission College 2019a). Erosion hazards are limited and there are no landslide hazards.

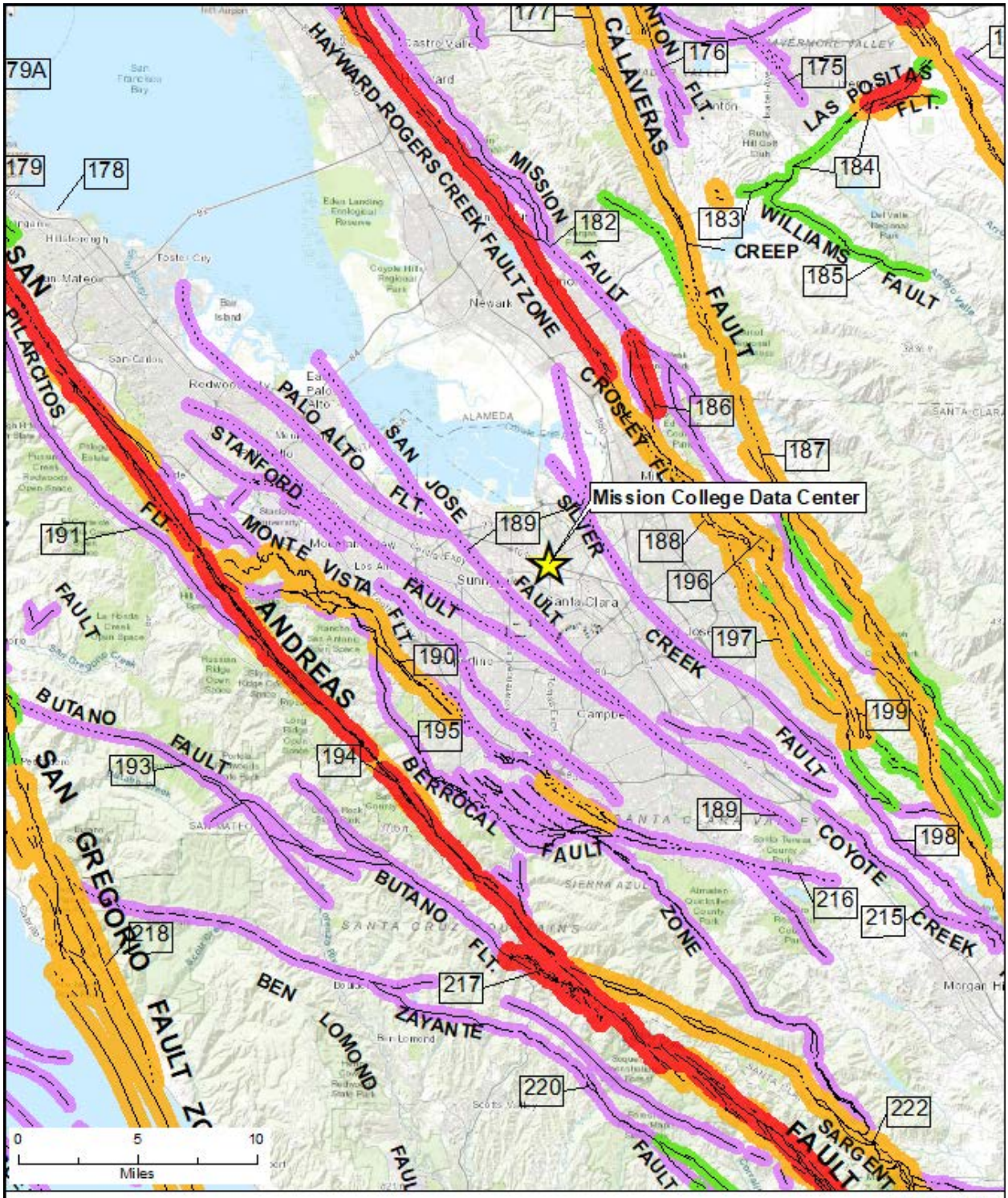
Groundwater

Depth to groundwater in the area is approximately 8 to 11 feet bgs. Fluctuations in groundwater levels are common due to seasonal fluctuation, underground drainage patterns, regional fluctuations, and other factors (Mission College 2019a).

Seismicity and Seismic Hazards

The significant earthquakes that occur in the Bay Area are generally associated with crustal movement along well-defined active fault zones of the San Andreas Fault system, which regionally trend in a northwesterly direction (**Figure 5.7-4**). Three of the major earthquake faults (the San Andreas Fault, the Hayward-Rogers Creek Fault, and the Calaveras Fault) that comprise the San Andreas Fault system extend through the Bay Area (CGS 2015). The Mission College Data Center site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone (known formerly as a Special Studies Zone), and there are no known active faults within the City limits of Santa Clara (Mission College 2019a).

Figure 5.7-4 identifies the regional earthquake faults in the project vicinity. 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 (CGS 2010). A more accurate estimate would be made as part of the final geotechnical report required by the building code (CBC 2019). 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), the San Andreas Fault (approximately 11.3 miles west of the site), and the Hayward-Rogers Creek Fault (approximately 6.3 miles north of the site). Ground shaking at the project site is predicted to be strong to very strong as determined by the Association of Bay Area Governments (Mission College 2019a). Structural design of facilities in California is required to incorporate design features to ensure public safety if a seismic event generates sufficient ground motion to impact the structural integrity of the facility in accordance with California Building Code (CBC 2019).



Fault Classification (Based on most recent activity)
- Historic
- Holocene
- Late Quaternary
- Quaternary

Sources: California Department of Conservation 2010, ESRI

Figure 5.7-4
Regional Fault

Loose unsaturated sandy soils tend to settle during strong seismic shaking. However, the soils encountered below the few feet of undocumented fill covering the site consists of hard lean clays with some loose to dense layers of silty, clayey, and poorly graded sands that may not be susceptible to significant differential seismic settlement. However, an approximately five-foot thick sandy silt layer is approximately nine feet bgs (Mission College 2019a). Therefore, there exists some potential for differential seismic settlement affecting the proposed project. Pursuant to APM PD GEO-1, the project owner will perform an additional geotechnical investigation to provide data that will produce a better understanding of the settlement potential across the site. This data will be provided in a report to the city and will be reviewed by the city's building standards division to ensure that the project complies with all CBC requirements.

Liquefaction

During strong ground shaking, loose, saturated, cohesionless soils can experience a temporary loss of shear strength and act like a fluid. This phenomenon is known as liquefaction. Liquefaction depends on the depth to water, grain size distribution, relative soil density, degree of saturation, and intensity and duration of the earthquake (Youd et al. 2001). The potential hazard associated with liquefaction is seismically induced settlement. The site is mapped within a State of California Seismic Hazard Zone for liquefaction. Areas mapped for this hazard either have been impacted historically by liquefaction or they display geologic or groundwater conditions conducive to liquefaction. Potentially liquefiable layers have been observed to depths of at least 50 feet below grade (Mission College 2019b, Geotechnical Investigation) and groundwater was encountered at depths ranging from approximately 8 to 11 feet bgs (Mission College 2019a). Proposed structures would be designed and constructed to account for this potential for liquefaction in accordance with the California Building Code (CBC 2019).

Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or "free" face such as an open body of water, channel, or excavation. In soils, this movement is generally due to failure along a weak plane and may often be associated with liquefaction. As cracks develop within the weakened material, blocks of soil displace laterally towards the open face. Cracking and lateral movement may gradually propagate away from the face as blocks continue to break free. 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 (Mission College 2019b).

Regulatory Background

The project would be required to obtain appropriate building permits from the city of Santa Clara. The issuance of the building permits and oversight provided by the city of Santa Clara would ensure that the project complies with the applicable building codes.

Federal

There are no federal regulations related to geology and soils and paleontological resources that apply to this project.

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 Code. The California Building Code (CBC) prescribes standards for constructing safer 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; the current version is the 2019 CBC.

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 Division of Occupational Safety and Health (Cal/OSHA) under Title 8 of the California Code of Regulations and Excavation Rules. These regulations are intended to minimize the potential for instability and collapse that could injure construction workers on the site.

State Paleontological Laws, Ordinances, Regulations, and Standards. 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.

The California Environmental Quality Act (CEQA) encourages the protection of all aspects of the environment by requiring state and local agencies to prepare multidisciplinary analyses of the environmental impacts of a project and to make decisions based on the findings of those analyses. CEQA includes, in its definition of historical resources, any object or site that "has yielded, or may be likely to yield, information important in prehistory" (California Code Regulations, title 14, § 15064.5(a)(3)(D)), which is typically interpreted by professional scientists as including fossil materials and other paleontological resources. More specifically, destruction of a "unique paleontological resource or site or unique geologic feature" may be a significant impact under CEQA (CEQA Guidelines Appendix G.VII. (f)).

Local

Local Building Code Amendments. Staff reviewed the city of Santa Clara General Plan (Santa Clara 2010) for amendments to the CBC 2019. The General Plan indicates that 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 2019 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.

Local Paleontological Regulations. Staff reviewed the city of Santa Clara General Plan (Santa Clara 2010) for provisions relevant to paleontological resources. Section 5.6.3 of the general plan identifies protection of paleontological resources as a goal of the city and policies 5.6.3-P1 through P6 outline how the protection of paleontological resources would be achieved.

- 5.6.3-G1 Protection and preservation of cultural resources, as well as archaeological and paleontological sites.
- 5.6.3-G2 Appropriate mitigation if human remains, archaeological resources or paleontological resources are discovered during construction activities.
- 5.6.3-P1 Require that new development avoid or reduce potential impacts to archaeological, paleontological and cultural resources.
- 5.6.3-P2 Encourage salvage and preservation of scientifically valuable paleontological or archaeological materials.

- 5.6.3-P3 Consult with California Native American tribes prior to considering amendments to the city's General Plan.
- 5.6.3-P4 Require that a qualified paleontologist/archaeologist monitor all grading and/or excavation if there is a potential to affect archeological or paleontological resources, including sites within 500 feet of natural water courses and in the Old Quad neighborhood.
- 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.
- 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 State law.

5.7.2 Applicant Proposed Measures

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.

5.7.3 Environmental Impacts and Mitigation Measures

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer *to Division of Mines and Geology Special Publication 42.*

Construction

Less than Significant Impact. The probability that demolition followed by construction of the proposed project would have an impact on the risk of loss, injury, or death involving rupture of an earthquake fault during demolition or construction is remote. The project site is located within the seismically active San Francisco Bay region, and the nearest historically active fault, the Hayward-Rogers Creek Fault, is approximately 6.3 miles from the project site (**Figure 5.7-4**). No active or potentially active faults are known to pass directly beneath the site. Several potentially active faults have been mapped outside of the general project area, the closest being the Silver Creek fault, which is mapped approximately 2.1 miles southwest of the proposed project site (**Figure 5.7-4**). Due to the distance of faults from the site and the absence of known faults within or near the site, development of the project would not expose people or buildings to known risks of fault rupture. Given this, the impact would be less than significant.

Operation and Maintenance

No Impact. The probability that operation or maintenance of the proposed project would have an impact on the risk of loss, injury, or death involving rupture of an earthquake fault during operation is remote. There are no mapped Alquist-Priolo Special Studies Zones for active faults crossing the project site (**Figure 5.7-4**). As described above, the zone of damage is limited to a relatively narrow area along either side of the fault. Therefore, no impacts related to fault rupture would occur.

Required Mitigation Measures: None

ii) Strong seismic ground shaking?

Construction

Less Than Significant Impact. Earthquakes along several nearby active faults in the region could cause moderate to strong ground shaking at the site. The intensity of ground motion and the damage done by ground shaking would depend on the characteristics of the generating fault, distance to the fault and rupture zone, earthquake magnitude, earthquake duration, and site-specific geologic conditions. The design of the project, including the building foundations, would assess potential impacts of strong seismic ground shaking.

Seismic hazards would be minimized by conformance to the seismic design criteria of the 2019 CBC and local amendments (Santa Clara 2010). A project-specific geotechnical engineering report would be provided to the city Building Official for review and approval prior to issuance of a building permit. With implementation of the seismic design guidelines per the CBC (CBC 2019), as well as the anticipated project-specific recommendations in the final geotechnical engineering report, the project would not expose people or property, directly or indirectly, to significant impacts associated with geologic or seismic ground shaking, and the project shall meet the design requirements of the current CBC.

Operation and Maintenance

Less Than Significant Impact. During operation and maintenance of the proposed project, the project facility would be subject to moderate to strong seismic ground shaking. However, with implementation of the most recent seismic design guidelines per the CBC (CBC 2019) and local amendments (Santa Clara 2010), the project would not expose people or property, directly or indirectly, to significant impacts associated with geologic or seismic ground shaking. Therefore, risks to people or structures from strong seismic ground-shaking would continue to be less than significant.

Required Mitigation Measures: None**.**

iii) Seismic-related ground failure, including liquefaction?

Construction

Less Than Significant Impact. The site is located within a state-designated Liquefaction Hazard Zone. The likely consequence of potential liquefaction at the site would be settlement. Total ground surface settlements on the order of 0.5 – 0.66 inches may result from liquefaction or ground softening after a seismic event (Mission College 2019b).

As previously mentioned, the project would be constructed in compliance with the 2019 CBC and local amendments, including all applicable seismic standards for

structures. Compliance with the 2019 CBC and local amendments reduces potential risks associated with settlement from seismically induced liquefaction.

Operation and Maintenance

Less Than Significant Impact. During operation and maintenance of the proposed project, the project facility would be subject to moderate to strong seismic ground shaking. However, with implementation of seismic design guidelines per the CBC (CBC 2019) and local amendments (Santa Clara 2010), the project would not expose people or property, directly or indirectly, to significant impacts associated with geologic or seismic ground shaking, including ground failure, liquefaction, or seismically induced subsidence. Therefore, risks to people or structures from strong seismic ground-shaking would continue to be less than significant.

Required Mitigation Measures: None**.**

iv) Landslides?

Construction

No Impact. There would be no impact from landslides. The proposed project site is located on very mildly sloping terrain and is not located in any of the areas subject to landslides as identified in the city of Santa Clara General Plan (2011). Grading of the substation expansion would not create steep slopes and construction of the proposed project would not cause a landslide.

Operation and Maintenance

No Impact. Operation and maintenance activities would not change materially from existing activities and would not include construction or grading of new slopes. For these reasons, and because the project components are not located in areas subject to landslides as identified in the city of Santa Clara General Plan 2010-2035 (Santa Clara 2011), no impact would occur.

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

Construction

Less Than Significant Impact. Construction activities associated with the project including excavation, trenching, and grading may temporarily increase sedimentation and erosion by exposing soils to wind and runoff until construction is complete and new vegetation is established. As discussed in **Section 5.10 Hydrology and Water Quality**, the project would be subject to construction-related storm water permit requirements. Prior to ground-disturbing construction activity, the project would have to comply with the Construction General Permit, which includes filing a Notice of Intent with the State Water Resources Control Board, coordinating with the city, and preparing and implementing a SWPPP. The SWPPP would include best management

practices for storm water quality control, including soil stabilization practices, sediment control practices, and wind erosion control practices. When construction is complete, the project would file a Notice of Termination with the San Francisco Bay RWQCB, documenting that all elements to the SWPPP have been implemented (Jacobs 2019a).

By complying with permits obtained for construction of this project, runoff from the project site would not violate the applicable waste discharge requirements or otherwise contribute to the degradation of storm water runoff quality. Therefore, impacts related to erosion and loss of topsoil would be less than significant and no mitigation is required.

Operation and Maintenance

Less Than Significant Impact. Surface water runoff from the facility is not expected to impact soil erosion or cause the loss of topsoil during project operation. Occasional minor surface disturbance may continue to be required during maintenance activities but such disturbance would be temporary and likely small. Continuous operation and maintenance work would not result in increased erosion or topsoil loss and therefore, no significant impact associated with erosion or loss of topsoil would occur.

Required Mitigation Measures: None.

c. Would the project be located on geologic units 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?

Construction

Less Than Significant Impact. 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 or slopes. Lateral spreading appears possible for the western portion of the site due to its proximity to San Tomas Aquino Creek (Mission College 2019a). Should the final geotechnical investigation indicate that lateral spreading represents a potential foundation stability issue then one way to reduce the potential impact would the construction of a shear key of improved soil between the building and creek channel to the west (Mission College 2019b).

A project-specific geotechnical engineering investigation would be conducted prior to final design, which would incorporate project design features needed to address potential lateral spreading. Both the final geotechnical engineering report and final project design documents would be provided to the city's building official for review and approval prior to issuance of a building permit. With implementation of design guidelines per the California Building Code (CBC 2019) as well as the anticipated project-specific design recommendations in the final geotechnical engineering report,

the project would not expose people or property, directly or indirectly, to unstable geologic or soil units.

Based on the site-specific geotechnical report, subsurface conditions at the project site are generally stable with a potential for minor settlement (up to 1.75 inches of static settlement and 0.66 inches of seismic settlement) (Mission College 2019b). The project would be designed and constructed in accordance with standard engineering safety techniques and in conformance with the requirements of applicable current CBC (CBC 2019) and local amendments (Santa Clara 2010). The project would not change or exacerbate the geologic conditions of the project area and the project would not expose people or property, directly or indirectly, to unstable geologic or soil units.

Operation and Maintenance

Less Than Significant Impact. Operation and maintenance activities would not materially change the surface runoff or geotechnical characteristics of the material beneath the project facilities. Thus, operation and maintenance activities would not introduce new soil stability hazards. Occasional minor surface disturbance may continue to be required during maintenance activities but such disturbance would be temporary and small. The project would not expose people or property, directly or indirectly, to unstable geologic or soil units.

Required Mitigation Measures: None.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Construction

Less Than Significant Impact. As discussed above in section **5.7.1 Setting**, expansive soil behavior is a condition where clay soils react to changes in moisture content by expanding or contracting. Poorly-drained soils have greater shrink-swell potential. Highly expansive soils blanket the site (Mission College 2019b). This condition can be eliminated by ensuring slabs-on-grade have sufficient reinforcement and are supported by a layer of non-expansive soil, along with limiting moisture changes in the near-surface soils, among other design criteria. The project-specific final geotechnical engineering report along with the final project design would address, as needed, any potential issues arising from expansive soils. Both the geotechnical engineering report and final project design documents would be provided to the city's building official for review and approval prior to issuance of a building permit. With implementation of design guidelines per the California Building Code (CBC 2019) and local amendments, the project would not create substantial direct or indirect risks to life or property.

Operation and Maintenance

No Impact. Operation and maintenance activities would not change materially the surface runoff or geotechnical characteristics of the material beneath the project facilities. Thus, operation and maintenance activities would not introduce new soil stability hazards. Occasional minor surface disturbance may continue to be required during maintenance activities, but such disturbance would be temporary and small. The project would not expose people or property, directly or indirectly, to unstable geologic or soil units.

Required Mitigation Measures: None.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Construction

No Impact. The project would connect to an existing city-provided sanitary sewer connection and would not require septic tanks (Mission College 2019a). Therefore, there would be no impact to soils as a result of sanitary waste disposal from the project during construction.

Operation and Maintenance

No Impact. The project would connect to an existing City-provided sanitary sewer connection and would not require septic tanks (Mission College 2019a). Therefore, there would be no impact to soils as a result of sanitary waste disposal from the project during operation and maintenance.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Construction

Less Than Significant With Mitigation Incorporated. The level of paleontological sensitivity at the project site is considered to be high (Mission College 2019a). The project site is located in the Santa Clara Valley, an area known to have scientifically significant paleontological resources. However, these fossil discoveries may be widespread or intermittent. Surficial sediment has been mapped as Holocene (11,700 years before present) and paleontological evidence indicates that Pleistocene (2.6 million to 11,700 years before present) sediments may also be present at or near the surface. Five fossil sites have been found at or near the ground surface within two miles of the project site, especially along stream beds. However, the general area has been extensively developed over the last 50 years as part of the technology research and development area known as Silicon Valley. The site has already been disturbed by prior, modern human occupation.

The potential to disturb paleontological resources would occur during the construction activities requiring earth moving, such as grading, trenching for utilities, excavation for foundations, and installation of support structures where native soil would be disturbed. Based on the ground disturbance necessary to complete the project components, there is a limited potential for adverse impacts to scientifically significant paleontological resources of high sensitivity (PFYC 4). Ground disturbing activities of ten feet or more below existing grade have the potential to impact undiscovered paleontological resources (Santa Clara 2010), and ground disturbing activities reaching depths up to 28-feet below existing grade (30 feet below the new grade) are planned (Mission College 2019a).

Staff-proposed mitigation measure (MM) **GEO-1,** discussed below and agreed to by the applicant (Mission College 2020c), would require the project to implement a Worker Environmental Awareness Training Program (WEAP). The WEAP would provide training to construction personnel regarding proper procedures (including identification and notification) in the event fossil materials are encountered during construction. **MM GEO-1** would ensure that staff working at the site would contact the appropriate technical expert, who would then be able to determine the significance of the paleontological resource, and properly salvage that resource. Therefore, with implementation of **MM GEO-1** the project's impact would be less than significant.

Operation and Maintenance

No Impact. There is no potential to disturb paleontological resources during operations because there would be no earth-moving activities required for operations. Occasional minor surface disturbance may continue to be required during maintenance activities, but such disturbance would be temporary, small and most likely limited to disturbance of fill. There would be no impact to paleontological resources.

Required Mitigation Measures:

MM GEO-1: Implement a Worker Environmental Awareness Training Program that would provide training to construction personnel regarding proper procedures (including identification and notification) in the event fossil materials are encountered during construction. If a fossil is found and determined by the approved paleontologist to be significant and avoidance is not feasible, the qualified paleontologist shall develop and implement an excavation and salvage plan in accordance with Society of Vertebrate Paleontology standards. Construction work in these areas shall be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted, and cataloged. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall then be deposited in a scientific institution with paleontological collections. A final Paleontological Mitigation Plan Report shall be prepared that outlines the results of the mitigation program. The city shall be responsible for ensuring that the paleontologist's recommendations regarding treatment and reporting are implemented.

5.7.4 References

BLM 2016 - Bureau of Land Management (BLM). Potential Fossil Yield Classification System: BLM Instruction Memorandum No. 2016-124. July 8, 2016. Accessed on: February 24, 2020. Available online at: https://edit.blm.gov/policy/im-2016-124

CBC 2019 - California Building Code (CBC). California Building Standard Commission. Accessed on: February 24, 2020. Available online at: http://www.bsc.ca.gov/Codes.aspx

CGS 2010 - California Geological Survey (CGS), Digital Images of Official Maps of Alquist-Priolo Earthquake Fault Zones of California; CD 2000-003; updated through December 2010. Accessed on: February 24, 2020. Available online at: http://www.quake.ca.gov/gmaps/ap/ap_maps.html/

CGS 2015 - California Geological Survey (CGS), California Department of Conservation. Fault Activity Map of California. Accessed on: February 24, 2020. Available online at: http://maps.conservation.ca.gov/cgs/fam/

Helley and Wealing 1989 - E.J. Helley and J.R. Wealing, 1989, Quaternary Geologic Map of the Milpitas Quadrangle, Alameda and Santa Clara Counties, California, U.S. Geological Survey Open-File Report 89-671, 1989. Accessed on: February 24, 2020. Available online at: https://pubs.usgs.gov/of/1989/0671/report.pdf

Helley et al. 1994 - E. J. Helley, R.W. Graymer, G.A. Phelps, P.K. Showalter, and C.M. Wentworth. Preliminary Quaternary geologic maps of Santa Clara Valley, Santa Clara, Alameda, and San Mateo Counties, California: A Digital Database, USGS Open-File Report 94.231, 1994. Accessed on: February 24, 2020. Available online at: https://pubs.usgs.gov/of/1994/0231/report.pdf

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2019b **-** Application for Small Power Plant Exemption: Mission College Data Center, Appendices A-C, dated November 2019. (TN 230844-47). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020a - Response to CEC staff data request set 1 (1-59), Mission College Backup Generating Facility (19-SPPE-05), February 2020 (TN 231960 and 232047). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020c - Applicant Acceptance of Mitigation Measure Language, email dated April 3, 2020 (TN 232673). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Norris and Webb 1990 - Robert M. Norris and Robert W. Webb, 1990, Geology of California, Second Edition, John Wiley and Sons. ISBN-13: 978-0471509806

NRCS 2019 - Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture, 2019, Interactive Soil Map. Accessed on: February 24, 2020. Available online at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Santa Clara 2010 - City of Santa Clara (Santa Clara). 2010-2035 General Plan. Approved November 16, 2010. Accessed on: February 24, 2020. Available online at: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan

Santa Clara 2011 - City of Santa Clara (Santa Clara). Integrated Final Environmental Impact Report, City of Santa Clara Draft 2010-2035 General Plan – Volume I EIR Text. January 2011. Accessed on: February 24, 2020. Available online at: https://www.santaclaraca.gov/home/showdocument?id=12900http://santaclaraca.gov/home/showdocument?id=12900

UCMP 2019 - University of California Museum of Paleontology (UCMP) 2019. *UCMP database*. Accessed on: February 24, 2020. Available online at: http://ucmpdb.berkeley.edu/

Wesling and Helley 1989 - J.R. Wesling and E.J. Helley, Quaternary Geologic Map of the San Jose West Quadrangle, Santa Clara County, California, U.S. Geological Survey Open-File Report 89-672, 1989. Accessed on: February 24, 2020. Available online at: https://pubs.usgs.gov/of/1989/0672/report.pdf

Youd et al. 2001 - T. L. Youd, I. M. Idriss, Ronald D. Andrus, Ignacio Arango, Gonzalo Castro, John T. Christian, Richardo Dobry, W. D. Liam Finn, Leslie F. Harder, Mary Ellen Hynes, Kenji Ishihara, Joseph P. Koester, Sam S.C. Liao, William F. Marcuson, Geoffrey R. Martin, James K. Mitchell, Yoshiharu Moriwaki, Maurice S. Power, Peter K. Robertson, Raymond B. Seed, and Kenneth H Stokoe "Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils." ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol 127, No. 10. October. Accessed on: 24 February, 2020 Available online at: https://www.santaclaraca.gov/home/showdocument?id=12900

5.8 Greenhouse Gas Emissions

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to greenhouse gas emissions.

GREENHOUSE GAS EMISSIONS **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

5.8.1 Setting

Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of GHGs have a much broader, global impact. Global warming associated with the "greenhouse effect" is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth's atmosphere. The principal GHGs that contribute to global warming and climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), black carbon, and fluorinated gases (F-gases): hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors.

Each GHG has its own potency and effect upon the earth's energy balance, expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1. Specifically, the GWP is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of CO_2. The larger the GWP, the more that a given gas warms the earth compared to CO_2 over that time period. The time period usually used for GWPs is 100 years.

For example, CH_4 has a GWP of 28 over 100 years from the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC 2013), which means that it has a global warming effect 28 times greater than CO_2 on an equal-mass basis. The F-gases are sometimes called high-GWP gases because, for a given amount of mass, they trap substantially more heat than CO_2. The GWPs for these gases can be in the thousands or tens of thousands. The carbon dioxide equivalent (CO_2e) for a source is obtained by

multiplying each quantity of GHG by its GWP and then adding the results together to obtain a single, combined emission rate representing all GHGs in terms of CO_2e.

Regulatory Background

Federal

Endangerment Finding and Cause or Contribute Finding. In April 2007, the US Supreme Court held that GHG emissions are pollutants within the meaning of the Clean Air Act (CAA). In reaching its decision, the Court also acknowledged that climate change results, in part, from anthropogenic causes (*Massachusetts et al. v. Environmental Protection Agency*, 549 U.S. 497 [2007]). The Supreme Court's ruling paved the way for the regulation of GHG emissions by the United States Environmental Protection Agency (U.S. EPA) under the CAA.

In response to this Supreme Court decision, on December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding GHGs under the CAA, section 202(a):

- Endangerment Finding: That the current and projected concentrations of the GHGs in the atmosphere threaten the public health and welfare of current and future generations; and
- Cause or Contribute Finding: That the combined emissions of GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

U.S. EPA has also enacted regulations for GHG reporting, the phase-out and banning of high global warming potential chemicals, and stationary GHG emissions source permitting. However, the project, as currently proposed, would not be subject to any of these federal regulations.

State

Global Warming Solutions Act of 2006. In 2006, the California State Legislature signed the Global Warming Solutions Act of 2006, or Assembly Bill (AB) 32, which provides the framework for regulating GHG emissions in California. This law requires the ARB to design and implement emission limits, regulations, and other measures such that statewide GHG emissions are reduced in a technologically feasible and cost-effective manner to 1990 levels by 2020. The statewide 2020 emissions limit is shown under AB 32 Scoping Plan.

AB 32 Scoping Plan. Part of ARB's direction under AB 32 was to develop a Scoping Plan that contains the main strategies California will use to reduce GHG emissions that cause climate change. ARB first approved the AB 32 Scoping Plan in 2008 and released its first update in 2014. The Scoping Plan includes a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and cost of implementation fee regulation to fund the program. In

December 2007, ARB set the statewide 2020 emissions limit, defined as reducing emissions to 1990 levels, at 427 million metric tons of CO_2e ($MMTCO_2e$). The May 2014 First Update to the Climate Change Scoping Plan adjusted the 1990 emissions estimate and the statewide 2020 emissions limit goal to 431 $MMTCO_2e$ (ARB 2014).

Regulation for the Mandatory Reporting of Greenhouse Gas Emissions. One key regulation resulting from AB 32 was ARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, which came into effect in January 2009. It requires annual GHG emissions reporting from electric power entities, fuel suppliers, CO_2 suppliers, petroleum and natural gas system operators, and industrial facilities that emit at least 10,000 metric tons of CO_2e ($MTCO_2e$/yr) from stationary combustion and/or process sources. The project would not be impacted by this regulation because stationary source testing and maintenance combustion GHG emissions are expected to be below the reporting threshold of 10,000 $MTCO_2e$/yr, as shown in **Table 5.8-2**.

Executive Order B-30-15. On April 29, 2015, Governor Brown issued Executive Order B-30-15, directing state agencies to implement measures to reduce GHG emissions 40 percent below their 1990 levels by 2030 and to make it possible to achieve the previously-stated goal of an 80 percent GHG reduction below 1990 GHG emissions by 2050. California's 2017 Climate Change Scoping Plan identified strategies for achieving the 2030 goal of 40% below 1990 level on the path toward 80% below 1990 level by 2050 (ARB 2017a).

Renewable Energy Programs. In 2002, California initially established its Renewables Portfolio Standard (RPS), with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent by 2017. State energy agencies recommended accelerating that goal, and California Executive Order S-14-08 (November 2008) required California utilities to reach the 33 percent renewable electricity goal by 2020, consistent with the AB 32 Scoping Plan. In April 2011, Senate Bill (SB) 2 of the First Extraordinary Session (SB X1-2) was signed into law. SB X1-2 expressly applies the new 33 percent RPS by December 31, 2020, to all retail sellers of electricity and establishes renewable energy standards for interim years prior to 2020. On October 7, 2015, SB 350 was signed into law, establishing new clean energy, clean air and greenhouse gas reduction goals for 2030 and beyond. SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. SB 100, signed into law on September 10, 2018, advances the RPS deadlines to 50 percent renewable resources by December 31, 2026, and 60 percent by December 31, 2030. In addition, SB 100 establishes policy that renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity by December 31, 2045.

Mobile Source Strategy. In May 2016, ARB prepared the Mobile Source Strategy, which addresses the current and proposed programs for reducing all mobile source emissions, including GHG emissions. The Mobile Source Strategy identifies programs that the state and federal government have or will adopt, which further the goals of the Scoping Plan. Some programs provide incentives to facilitate increased purchase of new, lower emission

light-, medium-, and heavy-duty vehicles to aid the state in achieving emission reduction goals. Other programs such as the On-Road, Low-NOx and Zero-Emission Technology Program require vehicle manufacturers to offer engines that reduce NOx emissions 90 percent from current levels. This will have a co-benefit for reducing GHG emissions depending on how this goal is met (ARB 2016). These programs calling for more stringent emissions limits are required by state and federal law and monitored by ARB or U.S.EPA.

Senate Bill 32 and Assembly Bill 197. On September 8, 2016, SB 32, codified as Section 38566 of the Health and Safety Code, was enacted. It extends California's commitment to reduce GHG emissions by requiring the state to reduce statewide GHG emissions by 40 percent below 1990 levels by 2030. A companion bill, AB 197, assures that the state's implementation of its climate change policies is transparent and equitable, with the benefits reaching disadvantaged communities. AB 197 also requires ARB to update its Scoping Plan to achieve the maximum technologically feasible and cost-effective reductions in GHG and to prioritize specific emissions reduction rules and regulations. These bills implement the policy goals outlined in the Governor's Executive Order B-30-15. In response, ARB updated the AB 32 Scoping Plan in November 2017 to establish a path that will get California to its 2030 target (ARB 2017a).

Short-Lived Climate Pollutant Reduction Strategy. In an effort to best support reduction of GHG emissions consistent with AB 32, ARB released the Short-Lived Climate Pollutant (SLCP) Reduction Strategy in March 2017. This was required by SB 605, which also defined SLCPs as having lifetimes in the atmosphere ranging from "a few days to a few decades." SB 1383, adopted in 2016, requires ARB to set targets to reduce SLCP emissions 40 percent below 2013 levels by 2030 for methane and hydrofluorocarbons and 50 percent below 2013 levels by 2030 for anthropogenic black carbon (ARB 2017b). The SLCP Reduction Strategy was integrated into the 2017 update to ARB's Scoping Plan.

Executive Order B-55-18. On September 10, 2018, Governor Brown issued Executive Order B-55-18 to achieve carbon neutrality, establishing a new statewide goal. This executive order states the governor's intention "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide targets of reducing greenhouse gas emissions." This executive order cites many steps already taken by California to reduce GHG emissions.

Regional

2017 Bay Area Clean Air Plan. The BAAQMD adopted the 2017 Bay Area Clean Air Plan on April 19, 2017 (BAAQMD 2017a). It provides a regional strategy to protect public health and protect the climate. To protect public health, the plan describes how the BAAQMD will continue its progress toward attaining all state and federal ambient air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHGs

reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets.

BAAQMD CEQA guidelines. BAAQMD published CEQA guidelines to assist lead agencies in evaluating a project's impacts on air quality (BAAQMD 2017b). This document describes the criteria that BAAQMD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for use in determining whether a project would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. The BAAQMD CEQA Guidelines document includes a methodology for estimating GHG emissions.

Plan Bay Area 2040. Under the requirements of SB 375, all metropolitan regions in California must complete a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan. In the Bay Area, the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) are jointly responsible for developing and adopting an SCS that integrates transportation, land use, and housing to meet GHG reduction targets set by ARB. In July 2017, the MTC and ABAG approved Plan Bay Area 2040, which is a strategic update to the previous plan approved in July 2013. The Bay Area GHG reduction targets established by ARB in September 2010 include a seven percent reduction in GHG emissions per capita from passenger vehicles by 2020 compared to 2005 emissions. Similarly, Plan Bay Area 2040 includes a target to reduce GHG emissions per capita from passenger vehicles 15 percent by 2035 compared to 2005 emissions (MTC & ABAG 2017).

Local

City of Santa Clara General Plan. The City of Santa Clara (City) General Plan includes policies that address the reduction of GHG 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 Santa Clara 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 Santa Clara General Plan.

City of Santa Clara Climate Action Plan. The City has a comprehensive GHG emissions reduction strategy, referred to as the City's Climate Action Plan (CAP, Santa Clara 2013). The original 2013 CAP identified the City's approach to achieve its share of statewide emissions reductions for the 2020 timeframe established by AB 32. The City's original CAP, adopted on December 3, 2013, specified the strategies and measures to be taken for a number of focus areas city-wide to achieve the overall emission reduction target. The City's original 2013 CAP also includes an adaptive management process that can incorporate new technology and respond when goals are not being met.

A key reduction measure undertaken by the City under the CAP is in the Coal-Free and Large Renewables focus area. The City's SVP provides electricity for the community of

Santa Clara, including the project site. Since nearly half (48 percent) of the City's GHG emissions result from electricity use, reducing GHG-intensive electricity generation (such as coal) is a major focus area in the City's CAP (Santa Clara 2013). The city reduced coal generation in 2017 by divesting its interest in M-S-R San Juan generating station effective January 1, 2018 (Santa Clara 2018).

Santa Clara's 2013 CAP also includes measures to improve energy efficiency in the city. Measure 2.3 in this focus area calls for 10 percent of new data centers to incorporate energy efficient practices. All new data centers since 2013 have utilized energy efficient cooling practices, exceeding this goal (Santa Clara 2018).

In 2016 the City produced its first Annual Report on the CAP. It reviewed its 2013 CAP again in the summer of 2018 (Santa Clara 2018), stating that the 2013 CAP "meets the criteria for a Qualified GHG Reduction Strategy" as established by California's CEQA guidelines. As such, the CAP can be used to streamline the environmental review process for new development. However, in order to remain a Qualified GHG Reduction Strategy, the City must monitor and update the CAP. In the updated 2018 Annual Report, the City stated that it has been successful in achieving a 4.5 percent reduction in GHG emissions relative to their 2008 baseline, which is equivalent to the city's 1990 emissions. The 2018 Annual Report indicated the City was on track to reduce the city's emissions to 15 percent below their baseline amount by 2020. It also stated that the CAP includes three "reach measures" to reduce GHG emissions 55 percent below the City's 1990 GHG emissions by the year 2035, to meet post-2020 GHG reduction goals. These reach goals call for more aggressive implementation of CAP strategies for the 2020 time frame (Santa Clara 2013).

In 2016, SVP was the largest source of GHG emissions in the City of Santa Clara's GHG emissions inventory, at 97 percent of all GHG sources attributed to the City.

In June of 2019, the City of Santa Clara released a Request for Proposals (RFP) for a contractor to update the 2013 CAP by the end of 2020 and to extend the CAP time horizon to 2030. The RFP is expected to accomplish:

- Updating the City of Santa Clara's current progress towards meeting state GHG emission targets;
- Assessing state and local activities that have been implemented so far to reduce emissions and quantify net benefit of these actions to the CAP;
- Identifying further actions the City can undertake to further reduce GHG emissions and meet new targets; and
- Identifying strategies for meeting new targets.

The BAAQMD CEQA Guideline allows a lead agency to use a Qualified GHG Reduction Strategy to determine the degree to which a proposed project would cause a significant adverse impact. Compliance with appropriate measures in the City's CAP would ensure an individual project is not cumulatively CEQA significant.

Santa Clara Green Power. The City of Santa Clara (City) provides an option for SVP customers to opt into purchasing "Green-e Energy Certified" renewable energy from solar and wind farm resources that contract with SVP. Currently, the maximum price increment associated with this program is 1.5 cents/kWh for residential and small business customers, with lower prices available to large volume customers such as data centers. A recent transaction was reportedly completed at a price less than 0.9 cents/kWh for a large commercial customer. To opt into the Green Power program, a data center owner could contract with SVP. They could pass this incremental cost to entities renting space at the data center and served by sub-meters, as long as the project owner does not mark up the price. Each year, the owner decides how much green power to purchase from SVP. At current electricity rates, electricity costs could increase 10 to 12.5 percent for any MCDC data customers that would opt into this program.

Silicon Valley Power's Integrated Resource Plan. The City of Santa Clara (City) produced an Integrated Resource Plan (IRP) for SVP dated November 12, 2018, (SVP 2020). The IRP was developed in response to the Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350), which established new clean energy, clean air, and greenhouse gas (GHG) reduction goals for 2030. The most challenging goals in the IRP call for the City to: (1) increase procurement of energy from renewable electricity sources to 60 percent by 2030, and (2) double energy efficiency savings in electricity and natural gas end uses by 2030.

California Energy Commission staff in the Supply Analysis Office of the Energy Assessments Division have reviewed SVP's 2018 IRP (CEC 2019) and found that among other things, by the year 2030 it: (1) achieves a 40 percent GHG emissions reduction from 1990 levels, and (2) meets the RPS goals of SB 350 to use 50 percent renewables.

Existing Conditions

California is a substantial contributor to global GHG emissions. The total gross California GHG emissions in 2016 were 429.4 $MMTCO_2e$ (ARB 2018). The largest source of GHG emissions in California is transportation, followed by industrial activities and electricity generation in state and out of state (ARB 2018). In 2016, total gross US greenhouse gas emissions were 6,511.3 $MMTCO_2e$ (U.S. EPA 2018).

The City prepares an annual report to assess progress towards meeting the GHG reduction targets established in the 2013 CAP and recommends next steps to help the City meet its targets. The City tracks changes in communitywide GHG emissions since 2008, which is the City's jurisdictional baseline year for GHG emissions inventory. The CAP 2018 Annual Report provides the City's GHG emissions inventory in 2016, which is the most recent GHG emissions inventory for the City. **Table 5.8-1** presents the City's 2016 GHG emissions inventory (Santa Clara 2018).

TABLE 5.8-1 CITY OF SANTA CLARA 2016 GHG EMISSIONS INVENTORY

Sector	Carbon dioxide emissions ($MTCO_2e$)
Commercial Energy	1,080.0
Residential Energy	132.9
Transportation & Mobile Sources	506.0
Solid Waste	25.7
Water & Wastewater	24.3
Total Emissions	1,769.0

Source: City of Santa Clara 2018.

5.8.2 Applicant Proposed Measures

None.

5.8.3 Environmental Impacts and Mitigation Measures

Methodology

The applicant estimated GHG emissions for both demolition/construction and operation from the project demolition and construction equipment, vendor and hauling truck trips and worker vehicle trips.

Testing and maintenance GHG emissions from the project are a result of diesel fuel combustion from readiness testing and maintenance of the standby generators, offsite vehicle trips for worker commutes and material deliveries, and facility upkeep (such as architectural coatings, consumer product use, landscaping, water use, waste generation, natural gas use for comfort heating, and electricity use).

Significance Criteria

BAAQMD CEQA Guidelines include recommended thresholds for use in determining whether projects would have significant adverse environmental impacts. BAAQMD has adopted a numeric threshold of 10,000 $MTCO_2e$/yr for projects that require permits from the BAAQMD (BAAQMD 2017b). Given that the project would include standby generators requiring BAAQMD permits to operate, the significance threshold applicable to this project is 10,000 $MTCO_2e$/yr.

This BAAQMD threshold is consistent with stationary source thresholds adopted by other air quality management districts throughout the state. According to BAAQMD CEQA guidelines (BAAQMD 2017b), the 10,000 $MTCO_2e$/yr threshold will capture 95 percent of the stationary source sector GHG emissions in the Bay Area. The five percent of emissions that are from stationary source projects below the 10,000 $MTCO_2e$/yr threshold account for a small portion of the Bay Area's total GHG emissions from stationary sources and these emissions come from very small projects. Such small stationary source projects would not significantly add to the global problem of climate change, and they would not

hinder the Bay Area's ability to reach the AB 32 goal in any significant way, even when considered cumulatively (BAAQMD 2017b).

New permit applications to BAAQMD for stationary sources that comply with the quantitative threshold of 10,000 $MTCO_2e$/yr would not be considered "cumulatively considerable" because they also would not hinder the state's ability to meet greenhouse gas emissions goals pursuant to AB 32. The AB 32 Scoping Plan measures, including the cap-and-trade program, provide for necessary emissions reductions from the stationary source sector to achieve AB 32 2020 goals (BAAQMD 2017b).

GHG impacts from the project's standby generators would be considered to have a less-than-significant impact if emissions are below the BAAQMD's threshold of 10,000 $MTCO_2e$/yr. Other project-related emissions from mobile sources, area sources, energy use and water use, would not be included for comparison to this threshold, based on guidance in the BAAQMD's CEQA Guidelines (BAAQMD 2017b). GHG impacts from all other project-related emission sources would be considered to have a less-than-significant impact if the project is consistent with the Santa Clara CAP and applicable regulatory programs and policies adopted by ARB or other California agencies.

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

Construction

Less Than Significant Impact. Construction of the project would result in GHG emissions generated by on- and offsite vehicle trips (material haul truck, worker commute, and delivery vehicle trips) and operation of construction equipment. The applicant estimated that these sources would generate approximately 1,231 $MTCO_2e$ during the estimated 25 months of demolition and construction.

Because construction emissions would cease once construction is complete, they are considered short-term. The BAAQMD CEQA guidelines do not identify a GHG emission threshold for construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed. BAAQMD further recommends incorporation of Best Management Practices (BMPs) to reduce GHG emissions during construction, as feasible and applicable. BMPs may include use of alternative-fueled (for example, biodiesel or electric) construction vehicles and equipment for at least 15 percent of the fleet, use of at least 10 percent of local building materials, and recycling or reusing at least 50 percent of construction waste (BAAQMD 2017b).

City of Santa Clara's CAP, Measure 5.2 calls for construction vehicles to use alternative fuels such as electricity, biodiesel, or compressed natural gas when possible. The CAPO notes that the City can make alternative fuels use a condition of approval for new developments during pre-construction review meetings (Santa Clara 2013).

Readiness Testing and Maintenance

Less Than Significant Impact. GHG emissions from project readiness testing and maintenance would consist of emissions from routine readiness testing and maintenance of the standby emergency generators, offsite vehicle trips for worker commutes and material deliveries, and facility upkeep, including architectural coatings, consumer product use, landscaping, water use, waste generation, natural gas use for comfort heating, and electricity use.

Project Stationary Combustion Sources. Table 5.8-2 shows the maximum potential annual GHG emission estimates for the standby generators routine readiness testing and maintenance. The emissions are estimated based on 50 hour annual testing and maintenance at 100% load.

TABLE 5.8-2 GREENHOUSE GAS EMISSIONS FROM STANDBY GENERATORS TESTING AND MAINTENANCE

Source	Maximum Annual Emissions ($MTCO_2e/yr$)
Standby Generators – Testing and Maintenance	3,875
BAAQMD Threshold	10,000
Exceeds Threshold?	No

Source: Mission College 2019a.

Table 5.8-2 shows that the estimated average annual GHG emissions from the project's stationary sources, the standby generators, for routine testing and maintenance are well below the BAAQMD GHG emissions significance threshold for stationary sources.

SVP Electricity Generation. As stated above, Silicon Valley Power (SVP) is owned by the City of Santa Clara. Electricity for MCDC would be provided by SVP which currently has ownership interest, or has purchase agreements, for about 1,268 megawatts (MW) of electricity (SVP 2019a). This capacity far exceeds SVP's current peak electricity demand of approximately 526 MW for 2018 (SVP 2019b). No new generation capacity is necessary to meet the capacity requirements of all expected new construction or redeveloped facilities within SVP's service territory to meet the near or projected future demand.

As stated in their 2018 Integrated Resource Plan (SVP 2020), SVP 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 new load (electricity demand). In addition, both the City and SVP encourage the use of renewable resources and clean distributed generation, and the local area has seen a significant increase in use of large and small rooftop photovoltaics. Demand displaced by customer-based renewable projects is also available to meet new loads.

SVP seeks to meet its RPS milestones through the addition of new renewable resources. SVP currently has a lower GHG emission rate than the statewide California power mix because it uses a much higher portion of renewable sources. A comparison of SVP's and the statewide power mix is shown in **Table 5.8-3**.

SVP's electricity carbon intensity factor for 2017 was determined to be 430 pounds (0.195 metric tons) of CO_2e per MWh. SVP's carbon intensity factor for electricity generation will continue to change as SVP's power mix continues to increase the percentage of electricity obtained from renewable resources. SVP eliminated all coal from its supply portfolio as of January 1, 2018 (SVP 2018).

TABLE 5.8-3 COMPARISON OF SVP AND STATEWIDE POWER MIX

Energy Resources	2018 SVP Non-Residential Power Mix	2018 California Power Mix
Renewable (Biomass, Geothermal, Eligible Hydroelectric, Solar, and Wind)	32%	31%
Coal	0%	3%
Large Hydroelectric	11%	11%
Natural Gas	34%	35%
Nuclear	0%	9%
Other	0%	< 1%
Unspecified sources of power (not traceable to specific sources)	23%	11%
Total	100%	100%

Source: SVP 2019c

Data Center Electricity Usage. 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 entire project is 78.1 MW. On an annual basis, the project would consume up to the maximum electrical usage of 684,156 MWh per year. SVP's power mix, with its 2017 estimate of 430 pounds of CO_2e per MWh, has a much lower average GHG emissions factor than the California statewide average emissions factor of 1,004 pounds of CO_2e per MWh or the PG&E average emissions factor value of 644 pounds of CO_2e per MWh. Each of the values are snapshots; average emission factors will trend down as renewable generation is added and the power plant fleet turns over.

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 could generate roughly 124 daily vehicle trips.

Project Water Consumption and Waste Generation. Water consumption results in indirect emissions from electricity usage for water conveyance and wastewater treatment. Recycled water would be utilized where feasible, based on availability from the City.

Summary of GHG Emissions. GHG emissions from stationary combustion sources (standby generator testing and maintenance) are presented in **Table 5.8-2** above. GHG emissions from energy use, mobile sources and building operation are provided in **Table 5.8-4**.

As shown in **Table 5.8-4**, operation of the project is estimated to generate 136,384 $MTCO_2e$/yr from maximum possible electricity use and the 2017 emission factor for SVP. This also includes other non-stationary sources. As described above, electricity to the MCDC would be provided by SVP, a utility that is on track to meet their 2030 GHG emissions reductions target, as described in their CAP 2018 Annual Report and as verified by Energy Commission staff. Actual GHG emissions associated with electricity use at MCDC will be much less than 136,384 $MTCO_2e$/yr since the SVP annual average emission factor will be tracking downward towards "zero net", and actual electricity use will be less than the maximum.

To reduce GHG emissions associated with use of energy during building operations, the MCDC includes a variety of energy efficiency measures as noted 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).

The Association of Environmental Professionals (AEP) issued a "white paper" on October 18, 2016 addressing the fact that most GHG analyses have focused on meeting the 2020 GHG target and that analyses need to also consider more ambitious post-2020 GHG reduction Targets (AEP 2016). The paper indicates that projects that would come online beyond 2020 should be evaluated for CEQA impacts using a qualified GHG reduction plan that provides substantial progress toward meeting future targets such as SB 32 goals for 2030 and eventually for 2050.

Because the MCDC would: (1) receive electricity from a utility on track to meet the SB 32's 2030 GHG emission reduction target, (2) result in lower emissions than the statewide average for an equivalent facility (roughly 13 percent) due to SVP's power mix, (3) include energy efficiency measures to reduce emissions to the extent feasible, and (4) be consistent with the City of Santa Clara's CAP, which is a Qualified GHG Reduction Plan, staff determined that the MCDC would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment.

TABLE 5.8-4. MAXIMUM GHG EMISSIONS FROM ENERGY USE, MOBILE SOURCES AND BUILDING OPERATION DURING PROJECT OPERATION

Source	Annual Emissions ($MTCO_2e$/yr)
Energy Use [a]	133,721
Area, Mobile Sources, water & waste	2,663
Total	136,384

Source: Mission College 2019a.
[a] Based on 2017 SVP carbon intensity factor of 430 pounds of CO_2e per MWh.

Conclusion

Less Than Significant Impact. The MCDC's GHG emissions are estimated to be 1,231 MTCO2e during the demolition and construction period as noted on page 5.8-10. Post-construction estimated emissions from the emergency generators during readiness testing and maintenance are estimated to be 3,875 MTCO2e/year as shown in **Table 5.8-2**. The GHG emissions for the demolition and construction period and the annual testing and maintenance emissions from the facility's stationary sources would be well below the BAAQMD significance thresholds of 10,000 $MTCO_2e$/yr. Therefore, the project's GHG emissions would not have a significant direct or indirect impact on the environment.

The GHG significance thresholds were established considering GHG emission reduction strategies in the AB 32 Scoping Plan, regional GHG reduction goals, and EO B-55-18. The GHG emissions that would be generated by the project would not be a "cumulatively considerable" contribution under CEQA because they would conform with all applicable plans, policies, and regulations adopted for the purpose of GHG reductions. More specifically, the operation for MCDC would conform to the City of Santa Clara's Climate Action Plan extended to at least 2030, which meets the criteria for a Qualified GHG Reduction Strategy established by the BAAQMD CEQA Guidelines. Therefore, the maximum operation for MCDC's non-stationary source GHG emissions (136,384 $MTCO_2e$/yr) are determined to have less than significant GHG impacts.

Required Mitigation Measures: None.

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Construction

Less Than Significant Impact. The project's short-term demolition and construction GHG emissions would not interfere with the state's ability to achieve long-term GHG emissions reduction goals. The vehicles used during demolition and construction of the project are required to comply with the applicable GHG reduction programs for mobile sources. The project would conform to relevant programs and recommended actions detailed in the AB 32 Scoping Plan and Mobile Source Strategy. Similarly, the

project components would not conflict with regulations adopted to achieve the goals of the Scoping Plan.

Readiness Testing and Maintenance

Less Than Significant Impact. The 2013 CAP, which is part of the Santa Clara 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 in 2020. The City of Santa Clara is also updating this CAP to extend it through at least 2030. 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 and existing and new development projects in the City. Discussion of the project's conformance with the applicable reduction measures for new development in the CAP are provided below.

Energy Efficiency Measures. Power Usage Effectiveness (PUE) is a metric used to compare the efficiency of facilities that house computer servers. PUE is defined as the total facility energy use divided by the critical Information Technology (critical IT) load (i.e., server load). Specifically, PUE = Total Facility Source Energy/IT Source Energy. A PUE of 2.0 means that the data center or laboratory must draw two watts of electricity for each watt of power consumed by the critical IT equipment. It is equal to the total energy consumption of a data center (for all fuels) divided by the energy consumption used for the critical IT equipment. The ideal PUE is 1.0 where all power drawn by the facility goes to the critical IT infrastructure. With implementation of the proposed mechanical and electrical design of the building and the anticipated data center occupancy, the PUE would be 1.11 or less at the MCDC (Mission College 2019a).

Measure 2.3 of the CAP calls for completion of a feasibility study of energy efficient practices for new data center projects with an average rack power rating[1] of 15 kilowatts or more to achieve a PUE of 1.2 or lower. The maximum (highest average) PUE of the MCDC would be 1.11, which is below Measure 2.3's goal of a PUE of 1.2 or lower. Please see **Section 5.6 Energy and Energy Resources** of this IS/PMND, for additional discussion of the PUE and energy efficiency.

Water Conservation Measures. Measure 3.1, Urban Water Management Plan targets, calls for a reduction in per capita water use to meet Urban Water Management Plan targets by 2020. Development standards for water conservation would be applied to increase efficiency in indoor and outdoor water use areas. Furthermore, the project would comply with all applicable City and state water conservation (indoor and outdoor) measures, including Title 24, Part 6, California Energy Code baseline standard requirements for energy efficiency, based on the 2016 Energy Efficiency

1 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.

Standards requirements, and CALGreen. For the project, these measures would include:

- recycled or non-potable graywater for landscape irrigation
- water efficient landscaping with low water usage plant material to minimize irrigation requirements; and
- Use of 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.

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.

Transportation and Land Use Measures. Measure 6.1, Transportation Demand Management program, requires new development located in the City's transportation districts to implement a transportation demand management (TDM) program to reduce drive-alone trips. The project would be required to have a 25 percent vehicle miles traveled (VMT) reduction, with 10 percent coming from TDM measures that can include Electric car charging stations, secure bicycle parking facilities, preferred carpool and vanpool parking and facilitation of ride sharing services.

Applicable General Plan Policies. The City adopted the Santa Clara General Plan to accommodate planned housing and employment growth through 2035. As part of the City's General Plan Update in 2011, new policies were adopted that address the reduction of GHG emissions during the planning horizon of the Santa Clara General Plan. In addition to the reduction measures in the CAP, the Santa Clara General Plan includes goals and policies to address sustainability aimed at reducing the City's contribution to GHG emissions. For the project, implementation of policies that increase energy efficiency or reduce energy use would effectively reduce indirect GHG emissions associated with energy consumption. The consistency of the project with the applicable land use, air quality, energy, and water policies in the Santa Clara General Plan is analyzed in **Table 5.8-5** below. As shown, the project would be consistent with the applicable sustainability policies in the Santa Clara General Plan.

Bay Area 2017 Clean Air Plan. The Bay Area 2017 Clean Air Plan (BAAQMD 2017a) includes performance objectives, consistent with the state's climate protection goals under AB 32 and SB 375, designed to reduce emissions of GHG emissions to 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The MCDC is being designed to achieve LEED standards to reduce energy, water, air, and GHG impacts of the

development. Due to the relatively high electrical demand of the MCDC, energy efficiency measures are included in the design and operation of the onsite electrical and mechanical systems. The project owner and tenants should be encouraged to use Santa Clara Green Power. This would be consistent with the general purpose of Energy and Climate Measure (ECM)-1 – Energy Efficiency in the 2017 Bay Area Clean Air Plan.

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

California SB 100. SB 100 advances the RPS renewable resources requirement to 50 percent by 2026 and 60 percent by 2030. It also requires renewable energy resources and zero-carbon resources to supply 100 percent of all retail sales of electricity by 2045. The project's GHG emissions are predominantly from electricity usage. As noted above, SVP is implementing SB 100 requirements in their IRP.

TABLE 5.8-5 PROJECT CONSISTENCY WITH SANTA CLARA GENERAL PLAN SUSTAINABILITY POLICIES

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

Provide incentives for LEED certified, or equivalent development.	
Water Use Policies	
Require installation of native and low-water consumption plant species with landscaping new development and public spaces to reduce water usage.	Consistent. The project would use water efficient landscaping with low water usage plant material to minimize irrigation requirements.

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

City of Santa Clara Climate Action Plan. The City of Santa Clara's Climate Action Plan (CAP) was adopted in 2013. The CAP includes several focus areas intended to reduce the City's GHG emissions. Each focus area includes several strategies that the City began implementing as early as 2013 with the intention of implementing Local Government Operations to reduce the City's GHG emissions in proportion to the reductions needed to meet statewide 2020 GHG reduction goals. There are seven focus areas with a total of 19 measures. While several strategies deal indirectly with data centers, for example by decarbonizing the electricity used at them, three of the 19 measures deal more directly, including Measure 2.3, which calls for use of efficient data storage equipment in the data center bays, Measure 2.4, which calls for installing solar panels on buildings when possible, and Measure 5.2, which calls for use of alternative fuels for vehicles used for new construction.

Indirect measures implemented by the CAP, such as Measure 1.1 which was implemented by the end of 2017 and which calls for divesting of the City's use of coal at the M-S-R San Juan coal power plant (Santa Clara 2018) and Measure 1.3, which calls for deployment utility-installed solar panels, provide the majority of the GHG reductions that would occur. These would reduce operating emissions attributed to this facility, which, worst case, would be up to 136,384 MTCO2e per year, as shown in Table 5.8-4. Of this total, 133,721 MTCO2e per year, which is about 98 percent of operating emissions, would be associated with the maximum use of electricity at the data center. Additional GHG reductions could also occur if the facility's construction includes use of alternative fuels as called for in Measure 5.2, although the amount of reductions would be much more modest because the entire construction-related GHG emissions total only 1,231 MTCO2e over 25 months, or about 590 MTCO2e per year for only two years.

Because of the City of Santa Clara's CAP, and SVP's progress towards meeting the 2030 GHG reduction goals and renewable energy goals of the CAP, the proposed project would not conflict with the region's efforts to reduce GHG emissions.

Conclusion

With implementation of the efficiency measures to be incorporated into the project, in combination with SVP's ongoing program to reduce the carbon intensity of its electricity supplies and achieve the state's GHG and RPS goals, this project would not conflict with any such plans or programs. In addition, the City of Santa Clara is updating their CAP to extend it through at least 2030, and an analysis by the Energy Commission's Supply Analysis Office has determined that the SVP is on track for meeting at least their 2030 requirements. Furthermore, the project's stationary sources would not conflict with the Bay Area 2017 Clean Air Plan because their GHG emissions would be less than BAAQMD's threshold of 10,000 $MTCO_2e/yr$, including both testing and maintenance and likely emergency operations.

Required Mitigation Measures: None.

5.3.4 References

AEP 2016 - Association of Environmental Professionals (AEP). Final White Paper, Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California, dated October 18, 2016. Accessed on March 13, 2020. Available online at: https://www.califaep.org/climate_change.php

ARB 2014 - California Air Resources Board (ARB). First Update to the Climate Change Scoping Plan, dated May 2014. Accessed on: January 2020. Available online at: https://ww3.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm

ARB 2016 - California Air Resources Board (ARB). Mobile Source Strategy. Accessed on: November 2019. Available online at: https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.htm

ARB 2017a - California Air Resources Board (ARB). California's 2017 Climate Change Scoping Plan, November 2017. Accessed on: November 2019. Available online at: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

ARB 2017b - California Air Resources Board (ARB). Short-Lived Climate Pollutant Reduction Strategy, March 2017. Accessed on: November 2019. Available online at: https://ww3.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf

ARB 2018 - California Air Resources Board (CARB). California Greenhouse Gas Emission Inventory – 2018 Edition, July 2018. Accessed on: November 2019. Available online at: https://www.arb.ca.gov/cc/inventory/data/data.htm

BAAQMD 2017a - Bay Area Air Quality Management District (BAAQMD). Final 2017 Clean Air Plan, Adopted April 19, 2017. Accessed on: November 2019. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf

BAAQMD 2017b - Bay Area Air Quality Management District (BAAQMD). California Environmental Quality Act Air Quality Guidelines, Updated May 2017. Accessed on: November 2019. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

CEC 2019 - California Energy Commission (CEC). September 23, 2019 letter from Drew Bohan, Executive Director, to Kathleen Hughes, Senior Division Manager—Customer Engagement, SVP. Accessed March 18, 2020. Available online at: https://ww2.energy.ca.gov/sb350/IRPs/pous.html

IPCC 2013 - Intergovernmental Panel on Climate Change (IPCC). Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp, doi:10.1017/CBO9781107415324. Accessed November 2019. Available online at: https://www.ipcc.ch/report/ar5/wg1/

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

MTC & ABAG 2017 - Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2017. Plan Bay Area 2040. July. Accessed on: November 2019. Available online at: https://mtc.ca.gov/our-work/plans-projects/plan-bay-area-2040

Santa Clara 2013 - City of Santa Clara (Santa Clara). Santa Clara Climate Action Plan. December 2013. Accessed on: November 2019. Available online at: http://santaclaraca.gov/Home/ShowDocument?id=10170

Santa Clara 2018 - City of Santa Clara (Santa Clara). City of Santa Clara Climate Action Plan Annual Report. July 2018. Accessed on: November 2019. Available online at: http://santaclaraca.gov/home/showdocument?id=62433

SVP 2019a - Silicon Valley Power (SVP). Electric Resource Map. Accessed on: November 2019. Available online at: http://www.siliconvalleypower.com/home/showdocument?id=5763

SVP 2019b - Silicon Valley Power (SVP). Utility Fact Sheet. Accessed on: November 2019. Available online at: http://www.siliconvalleypower.com/svp-and-community/about-svp/utility-fact-sheet

SVP 2019c - Silicon Valley Power (SVP). Power Content Label. Accessed on: March 13, 2020. Available online at: https://www.siliconvalleypower.com/svp-and-community/about-svp/power-content-label

SVP 2020 - Silicon Valley Power (SVP). Final 2018 Integrated Resource Plan dated 12 November 2018. Accessed on January 31, 2020. Available online at: https://www.siliconvalleypower.com/svp-and-community/about-svp/integrated-resource-plan

U.S. EPA 2018 - United States Environmental Protection Agency (U.S. EPA). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016, EPA 430-R-18-003, April 2018. Accessed on: May 2019. Available online at: https://www.epa.gov/sites/production/files/2018-01/documents/2018_complete_report.pdf

5.9 Hazards and Hazardous Materials

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to hazards and hazardous materials.

HAZARDS AND HAZARDOUS MATERIALS **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Environmental checklist established by CEQA Guidelines, Appendix G.

5.9.1 Setting

Hazardous Waste and Substances Sites

The project owner hired WSP Group to conduct a Phase 1 Environmental Site Assessment (ESA) and to determine the location of hazardous wastes and hazardous material release sites within 0.25 mile of the project. The analysis provided by WSP Group included, within the Phase 1 ESA, a search through the Environmental Data Resources, Inc (EDR) proprietary database related to generation, storage, handling, transportation, treatment

of wastes, and the remediation of contaminated soil and groundwater sites. WSP's search included searches of the State Water Resources Control Board's (SWRCB) GeoTracker database and the California Department of Toxic Substances Control's (DTSC) EnviroStor database. In addition, a limited Phase II ESA was conducted in 2002.

The site was used for agricultural purposes until the late 1970s. It is likely that agricultural pesticides, herbicides, and fertilizers were used on the site. The site was undeveloped land until construction of Building A in 1979. The property consists of four connecting sections identified as Building A, B, C, and D. Nortel Networks, a telecommunications and data networking equipment manufacturer occupied the property until 2002. The company used and stored chlorinated solvents on-site including Freon and 1, 1, 1 trichloroethane (1,1,1-TCA). In addition, the company also previously used and stored acetone, isopropyl alcohol, lead solder and liquid nitrogen on the property (Mission College 2019b)

Prior to the current occupant, two historical releases occurred on the property, including a release of solvents from manufacturing chemical storage areas maintained by Nortel Networks. In 2002, a Phase II ESA investigation was conducted and contamination was discovered during groundwater monitoring on site, and results were presented to the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) for review in 2002. The subsurface investigation indicated elevated concentrations of volatile organic compounds (VOCs) in groundwater and low levels of pesticides and metals in soils in four of the fifteen groundwater samples. The concentrations detected in the groundwater samples were less than their residential screening criteria. In 2005, SFRWQCB issued a "No Further Action" required letter stating that the property is a low-risk site that does not pose a threat to human health or the environment (SWRCB 2020).

In 2005, an accidental release of approximately 200 gallons of diesel fuel onto a paved area occurred on site, which flowed to the storm water drainage system. The project owner hired Clayton Group to complete a Phase II ESA investigation associated with the release. Clayton conducted a limited subsurface investigation that included sixteen boring locations located throughout the property and five groundwater samples were collected to evaluate the current subsurface conditions. Soil and groundwater samples were analyzed for total petroleum hydrocarbons as diesel (TPHd). Low concentrations of TPHd were detected in shallow soils, and TPHd was not detected in any of the groundwater samples. Clayton determined that the soil and groundwater beneath the site was not significantly impacted (Mission College 2019b).

The SFRWQCB issued a "No Further Action" required letter stating that the property is a low-risk site that does not pose a threat to human health or the environment.

Airports

The Norman Y. Mineta San Jose International Airport, a public airport, is located approximately 1.6 miles south of the proposed project site. The Santa Clara County Comprehensive Land Use Plan (CLUP) shows that the project is not within an airport safety zone. The project's Federal Aviation Regulations (FAR) Part 77 (obstruction)

surface is 162 feet above mean sea level (AMSL), as identified in Figure 6 of the Comprehensive Land Use Plan for San Jose International Airport (SCCALUC 2016).

Schools

There are no schools within 0.25 mile of the project site. The closest school is the Montague Elementary School, which is approximately 1.6 miles east of MCDC.

Emergency Evacuation Routes

The Santa Clara Local Hazard Mitigation Plan (Santa Clara County 2017) identifies potential hazards and provides a risk assessment for the potential natural hazards, such as a flood, wildfire, or earthquake, that could impact the county. The plan does not identify any designated evacuation routes near the project site.

Wildfire Hazards

The California Department of Forestry and Fire Protection (CalFire) identifies and maps areas of significant fire hazards based on fuels, terrain, and other relevant factors. The maps identify this information as a series of Fire Hazard Severity Zones, which are progressively ranked in severity as un-zoned, moderate, high, and very high. State responsibility areas (SRAs) are locations where the State of California is responsible for wildland fire protection. Local responsibility areas (LRAs) are locations where the responding agency is the local county or city.

The new MCDC would be located within Santa Clara County. The CalFire maps for Santa Clara County (CalFire 2007) indicate that the project site is located in an LRA. Within the LRA, the project site falls within an un-zoned Fire Hazard Severity Zone that indicates that the project site has a less-than-moderate susceptibility to wildland fires. For more information on wildfire hazards, see **Section 5.19 Wildfire**.

Regulatory Background

Hazardous substances are defined by federal and state regulations that aim to protect public health and the environment. Hazardous materials are those that have certain chemical, physical, or infectious properties. Hazardous substances are defined in the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) section 101(14), and also in Title 22, California Code of Regulations, section 66260.10 and California Health & Safety Code section 25501.

For this analysis, soil that is excavated from a site containing hazardous materials would be considered to be a hazardous waste if it exceeded specific Title 22, California Code of Regulations criteria, criteria defined in CERCLA, or other relevant federal regulations. (See Definition of Hazardous Waste, Title 22 Cal. Code Regs., § 66261.3.) Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of these materials occurs; remediation may also be required if certain other activities occur. Even if no soil or groundwater at a contaminated site has the

characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies with jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking lead jurisdiction.

Federal

Resource Conservation and Recovery Act. The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the U.S. EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act.

Comprehensive Environmental Response, Compensation, and Liability Act. Congress enacted the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), including the Superfund program, on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The National Contingency Plan also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Department of Transportation. The United States Department of Transportation is the primary federal agency responsible for regulating the proper handling and storage of hazardous materials during transportation (49 CFR §§ 171-177 and 350-399).

Federal Aviation Administration. Title 14, Part 77.9 of the Code of Federal Regulations requires Federal Aviation Administration (FAA) notification for any construction or alteration of navigable airspace exceeding 200 feet above ground level (AGL). It also requires notification for construction or alterations within 20,000 feet of an airport with a runway more than 3,200 feet in length if the height of the construction or alteration exceeds a slope of 100 to 1 extending outward and upward from the nearest point of the nearest runway of the airport.

If a project's height exceeds 200 feet or exceeds the 100:1 surface, the project applicant must submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA.

State

California Environmental Protection Agency. The California Environmental Protection Agency (CalEPA), created in 1991, unified California's environmental authority in a single cabinet-level agency and brought the California Air Resources Board (CARB), State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCBs), Integrated Waste Management Board, DTSC, Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation under one agency. These agencies under the CalEPA "umbrella" provide protection of human health and the environment and ensure the coordinated deployment of state resources. Their mission is to restore, protect and enhance the environment, to ensure public health, environmental quality, and economic vitality.

The California Hazardous Waste Control Law. CalEPA administers the California Hazardous Waste Control Law to regulate hazardous wastes. The Hazardous Waste Control Law lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

Department of Toxic Substances Control. DTSC is a department within CalEPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

California Occupational Safety and Health Administration*.* California Occupational Safety and Health Administration (Cal OSHA) is the primary agency responsible for worker safety related to the handling and use of chemicals in the workplace. Cal OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (Title 8, Cal. Code Regs., §§ 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Department of California Highway Patrol. Department of California Highway Patrol is the primary agency responsible for enforcing the regulations related to the transport of hazardous materials on California roads and highways (Title 13, Cal. Code Regs., §§ 1160-1167).

Local

Santa Clara County Operational Area Hazard Mitigation Plan. The plan includes a risk assessment that identifies the natural hazards and risks that can impact a

community based on historical experience, estimates the potential frequency and magnitude of disasters, and assesses potential losses to life and property. The plan also includes developed mitigation goals and objectives as part of a strategy for mitigating hazard-related losses.

5.9.2 Applicant Proposed Measures:

PD HAZ-1: The project proposes to implement the following measures that would reduce potentially significant soil and or groundwater impacts to construction workers to a less than significant level (Mission College 2019a):

- 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 handling procedures;
    - protocols to characterize/profile soil suspected of being contaminated so that appropriate mitigation, disposal or reuse alternatives, if necessary, can be implemented;
    - notification procedures to follow if previously undiscovered significantly impacted soil or groundwater is encountered during construction;

- notification procedures to follow 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.

5.9.3 Environmental Impacts and Mitigation Measures

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction

Less Than Significant Impact. During the construction phase of the project, the only hazardous materials used would be paints, cleaners, solvents, gasoline, motor oil, welding gases, and lubricants. When not in use, any hazardous material would be stored in designated construction staging areas in compliance with local, state, and federal requirements. Any impacts resulting from spills or other accidental releases of these materials would be limited to the site due to the small quantities involved and

their infrequent use, hence reduced chances of release. Temporary containment berms would also be used to help contain any spills during the construction of the project.

During construction, all 45 diesel generator fuel tanks would have to be filled. The transportation of the diesel fuel to the site would take several tanker truck trips. Diesel fuel has a long history of being routinely transported and used as a common motor fuel. It is appropriate to rely upon the extensive regulatory framework that applies to the shipment of hazardous materials on California highways and roads to ensure safe handling in general transportation (see Federal Hazardous Materials Transportation Law 49 USC § 5101 et seq., DOT regulations 49 CFR subpart H, §§ 172–700, and California Department of Motor Vehicles (DMV) regulations on hazardous cargo). Thus, the transportation of diesel fuel would pose a less than significant risk to the surrounding public.

Therefore, the routine transport, use or disposal of hazardous materials would have a less than significant impact to the public or the environment.

Operation and Maintenance

Less Than Significant Impact. During the operational phase of the project, diesel fuel would be stored on-site but the generators would only be filled to 95 percent capacity. The diesel fuel would be used during emergencies, testing, and maintenance. Each generator would run bi-weekly for 15 minutes with no load on the engine. Each generator would also be required to run for the following run times at varying load ranges for yearly testing purposes: 25 percent load for 30 minutes, 50 percent load for 30 minutes, and 100 percent load for 1 hour. The routine testing and maintenance activities would require the tanks to be refilled if fuel levels fall below 90 percent capacity approximately every two to three months (Mission College 2020a).

Projects with diesel-fired back up generators would use standard practice for fuel quality and maintenance of stored diesel fuel. Standard practice includes that each engine would have a fuel filtration system that would filter the fuel contents daily. The fuel filters would be replaced as needed or annually which would reduce any effects of fuel degradation on engine components and operation. The MCDC is required to institute a fluid maintenance program in accordance to ASTM D975. The program would establish inspection and fuel replacement frequencies (Mission College 2020a). Commercial diesel fuels also contain biocides that prevent microbial growth and additives that help to stabilize the fuel for several months. Additionally, the diesel fuel would be replenished with fresh fuel after each month's testing procedures. With the above listed safety features and precautions, the risk to the off-site public or environment through the routine transport, use or disposal of hazardous materials would have a less than significant impact.

Required Mitigation Measures: None.

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Construction

Less Than Significant Impact. As described under the discussion for impact *criterion a.*, project construction would require the limited use of hazardous materials, such as fuels, lubricants, and solvents. The storage and use of hazardous materials during construction could result in the accidental release of small quantities of hazardous materials typically associated with minor spills or leaks. However, as discussed in impact *criterion a.*, hazardous materials would be stored, handled, and used in accordance with applicable regulations. Personnel would be required to follow instructions on health and safety precautions and procedures to follow in the event of a release of hazardous materials. All equipment and materials storage would be routinely inspected for leaks. Records would be maintained for documenting compliance with the storage and handling of hazardous materials.

For the above reasons, the project impacts would be less than significant.

Operation and Maintenance

Less Than Significant Impact. The project would not create a significant hazard to the public or environment due to an accidental release of a hazardous material. Although a substantial quantity of diesel fuel would be stored on-site, its storage would be split among many separate double-walled tanks, with a portion of it stored in the double-walled belly tank beneath each type of generator configurations, effectively limiting a worse case spill to the quantity held within one tank. There are two types of generator packages: single level and stacked configurations. The single level generator package would have a fuel tank with a storage capacity of 5,000 gallons. The stacked generator package would consist of two generators with a lower level fuel tank with a storage capacity of 10,000 gallons and a top-level day tank with a storage capacity of 500 gallons.

Each generator's integrated fuel tank would be of a double-walled high integrity design. The interstitial space between the inner and outer walls of each tank would be continuously monitored electronically for the presence of leaks through the inner wall. The monitoring system would be electronically linked to an audible and visual alarm system that alerts personnel if a leak is detected. Additionally, the aboveground fuel tanks would be placed within secondary containment that would limit the migration of any spilled diesel fuel.

Deliveries of diesel fuel by tanker truck during the project's operation would be scheduled on an as-needed basis. Diesel tanker trucks would use warning signs and/or

wheel chocks to prevent the truck from moving before complete disconnection of the flexible or fixed transfer lines. An emergency pump shut-off would be available in case a pump hose breaks during fueling of the tanks. In addition, a temporary spill-catch basin would be located at the fill port of each belly tank during refilling. With the above listed safety features and precautions, the risk to the off-site public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials would have a less than significant impact.

Required Mitigation Measures: None.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Construction

No Impact. There are no schools located or proposed within 0.25 mile of the project site. In addition, would be no hazardous materials present that would be emitted from the site at rates capable of creating offsite impacts. Therefore, there would be no impact.

Operation and Maintenance

No Impact. There are no schools located or proposed within 0.25 mile of the project site. Therefore, no impact from the operation or maintenance of the project would occur.

d. Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Construction

Less Than Significant Impact. According to a review of the Envirostor and GeoTracker databases, the project site does not have any known, open cases on the hazardous materials sites compiled pursuant to Government Code section 65962.5. WSP's limited subsurface investigation conducted during the Phase I and Phase II ESAs found levels of arsenic, lead and mercury in the coil samples that were less than their residential screening criteria. Fuel-related volatile organic compounds (VOCs) were not detected in any soil sample. There were VOCs detected in the groundwater samples less than their residential screening criteria (Mission College 2019b).

Ground disturbing activities associated with the demolition of existing buildings, the removal of underground utilities, and construction of the project would have the potential to encounter unidentified contaminated soil. With the implementation of the Applicant Proposed Mitigation **PD HAZ-1**, a SMP would be created. The SMP would

establish proper procedures to be taken when contaminated soil is found, including procedures for how to dispose of the contaminated soil properly. The Health and Safety Plan would establish required provisions for personal protection and worker procedures in the event that contaminated soil is encountered. Therefore, the demolition and construction of the project would create a less than significant impact to the public or the environment.

Operation and Maintenance

No Impact. Operation and maintenance activities would not involve excavation activities and would therefore have no impact.

Required Mitigation Measures: None.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Construction

Less Than Significant Impact. The project site is located approximately 1.6 miles north of the Norman Y. Mineta San Jose International Airport. The FAA establishes a maximum structure height of 162 feet AMSL at the project site (SCCALUC 2016). Even when accounting for the 24'-6" AMSL finished floor elevation of the project site, the MCDC, at 108'-3" AGL and therefore 135'-9" AMSL, would not exceed the FAA's height limit of 162 AMSL.

The project site is subject to Title 14, Part 77.9 of the Code of Federal Regulations, Construction or Alteration Requiring Notice. With a maximum project height of 108'-3" AGL, the project would exceed the FAA notification 100:1 surface threshold of 112 feet at the project site. On January 30, 2020, the applicant filed Form 7460-1, *Notice of Proposed Construction or Alteration* with the FAA (Mission College 2020a).

The project would comply with the FAA issuance of a "determination of no hazard" or any conditions attached to ensure such a determination. As the permitting agency for the project, the City of Santa Clara would ensure compliance with FAA conditions, should any be imposed on the project. Therefore, the project would not pose a safety hazard and would have a less than significant impact. Project construction would not result in excessive noise impacts for people residing or working in the project area, as described in the more detailed analysis in **Section 5.13 Noise**.

Operation and Maintenance

No Impact. Operation and maintenance activities for the project site would be similar to those for a similarly sized industrial building and would not have an impact on people working or residing in the area. In addition, the thermal plume generated by

the project would not pose a safety hazard to any aircraft near the Norman Y. Mineta San Jose International Airport. Detailed analysis of potential thermal plume impacts is contained in **Section 5.17 Transportation**.

Required Mitigation Measures: None.

f. Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?

Construction

No Impact. A review of the Santa Clara County Operational Area Hazard Mitigation Plan for the project revealed no specific mapping or delineation of emergency evacuation or access routes. The plan indicated that the area police, fire department, and other emergency services would implement their emergency response or evacuation plans according to their communications protocols and hazard mitigation programs. The project site is not identified on any emergency evacuation or access routes. In addition, the construction would not require any road closures since the work would all be done onsite. During project construction, there would be no impact to an adopted response plan or emergency evacuation plan.

Operation and Maintenance

No Impact. After construction, no lane closures would be needed, and no impact to a response plan or emergency evacuation plan would occur.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Construction

No Impact. The project site is located in Santa Clara County. It is located within an un-zoned Fire Hazard Severity Zone, within an LRA, indicating that the project site has a less than moderate susceptibility to wildland fires. The project site is not adjacent to wildlands. Buildings bound the project to the north, south, east and west. Although equipment and vehicles used during construction, as well as welding activities, have the potential to ignite dry vegetation, the project is located within an urban area surrounded by industrial and commercial zones that have very limited dry vegetation. In addition, the project is located within an un-zoned fire hazard area. Therefore, there would be no impact from wildland fires resulting from construction activities related to the project.

Operation and Maintenance

No Impact. The project site is located within an un-zoned Fire Hazard Severity Zone and therefore, there would be no impact from wildland fires.

5.9.4 References

AirNav 2020 **-** AirNav. KSJC Norman Y Mineta San Jose International Airport. Accessed on: February 3, 2020. Available online at: https://www.airnav.com/airport/KSJC

CalFire 2007 - California Department of Forestry and Fire Protection (CalFire). 2007 *Santa Clara County – Very High Fire Hazard Severity Zones in State Responsibility Area*. Department of Forestry and Fire Protection. Projection Albers, NAD 1927, Scale 1: 100,000 at 32" x 27"

DTSC 2020 - Department of Toxic Substances Control (DTSC). Envirostor Database. Accessed on: February 3, 2020. Available online at: http://www.envirostor.dtsc.ca.gov/public/

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2019b **-** Application for Small Power Plant Exemption: Mission College Data Center, Appendices A-C, dated November 2019. (TN 230844-47). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020a – Response to CEC staff data request set 1 (1-59), Mission College Backup Generating Facility (19-SPPE-05), February 2020 (TN 231960 and 232047). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Santa Clara County 2017 - County of Santa Clara Emergency Management. October 15, 2017. *Santa Clara County Operational Area Hazard Mitigation Plan Volumes 1&2*

SCCALUC 2016 **-** Santa Clara County Airport Land Use Commission (SCCALUC). 2016. *Mineta San Jose International Airport Comprehensive Land Use Plan for Santa Clara County*. Accessed on: February 3, 2020. Available online at: https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_SJC_CLUP.pdf

SWRCB 2020 - State Water Resources Control Board (SWRCB). GeoTracker Database. Accessed on: January 21, 2020. Available online at: http://geotracker.waterboards.ca.gov

5.10 Hydrology and Water Quality

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to hydrology and water quality.

HYDROLOGY AND WATER QUALITY **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would:				
i. result in substantial erosion or siltation, on- or offsite;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G

5.10.1 Setting

Storm Drainage and Water Quality

The project would be constructed in the City of Santa Clara, within the Guadalupe watershed. The Guadalupe watershed drains to the San Francisco Bay, located a few miles northwest of the proposed project site. The site is located west of the Guadalupe River and east of San Tomas Aquino Creek. Storm water from the project site drains

into the city of Santa Clara's storm water drain system, which discharges to San Tomas Aquino Creek and ultimately the San Francisco Bay.

The water quality of San Tomas Aquino Creek and other creeks is influenced by pollutants contained in storm water runoff. Storm water runoff from urban areas typically contains conventional pollutants such as sediment, metals, pesticides, herbicides, oil, grease, asbestos, lead, and animal wastes.

Since the site is occupied by a 358,000 square foot office space, it is developed and the site is mostly impervious area.

Groundwater

The Santa Clara Valley groundwater basin is divided into four interconnected subbasins that border the southern San Francisco Bay. The proposed project would be located in the Santa Clara Subbasin, which extends across the Santa Clara Valley in the region south of San Francisco Bay.

Fluctuations in rainfall, changing drainage patterns, and other hydrologic factors can influence groundwater levels. Based on the Seismic Hazard Zone Report 051 prepared by the Department of Conservation for the Milpitas 7.5-Minute Quadrangle, the historic shallowest observed depth to groundwater in the general site area was between 5 and 10 feet below ground surface (bgs) (CGS 2001). According to the SPPE application the depth to groundwater beneath the project site is typically 8 to 11 feet bgs.

Historical releases of contaminants from chemical storage area are known to have occurred as a result of former site occupants. One of the releases contaminated groundwater onsite with volatile organic compounds (VOCs), resulting in monitoring by the San Francisco Regional Water Quality Control Board (SFRWQCB). In 2005, the SFRWQCB granted the site a "No Further Action" status, and the release has since been considered a closed case.

Flooding

The average elevation of the existing project site is approximately 20 feet above the 1988 North American Vertical Datum (NAVD88) (Mission College 2019a). According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) 06085C0064H, effective May 18, 2009, the project site is located within Zone AH and Zone X. Zone AH is classified as having a one percent annual chance of flood (or a 100-year flood). Zone X is defined as areas of 0.2 percent annual chance of flood (or a 500-year flood); areas of one percent chance of annual flood with average depth of less than one foot, or with drainage areas less than one square mile; and areas protected by levees against floods with one percent annual chance of occurrence. The site is located near the Guadalupe River and San Tomas Aquino Creek.

Also, the project site is not within an area mapped as vulnerable to sea level rise in the

National Oceanic and Atmospheric Administration's Digital Coast, Sea Level Rise Viewer (NOAA 2019).

Regulatory Background

Federal

Clean Water Act and California's Porter-Cologne Water Quality Control Act. The State Water Resources Control Board (SWRCB) and its nine RWQCBs are responsible for the regulation and enforcement of the water quality protection requirements of the federal Clean Water Act (CWA) and the state's Porter-Cologne Water Quality Control Act (Porter-Cologne). The National Pollutant Discharge Elimination System (NPDES) is the permitting program that allows point source dischargers to comply with the CWA and Porter-Cologne laws. This regulatory framework protects the beneficial uses of the state's surface and groundwater resources for public benefit and environmental protection. Protection of water quality could be achieved by ensuring the proposed project complies with applicable NPDES permits from the SWRCB or the San Francisco Bay RWQCB.

Under Section 303(d) of the CWA, states are required to identify impaired surface water bodies and develop total maximum daily loads (TMDLs) for contaminants of concern. The TMDL is the quantity of pollutant that can be 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. San Tomas Aquino Creek, west of the project site, is currently listed for trash on the United States Environmental Protection Agency's Section 303(d) list.

The San Francisco Bay RWQCB issued a Municipal Regional Storm Water NPDES Permit (Permit Number CAS612008) that requires the City of Santa Clara to implement a storm water quality protection program. This regional permit applies to 77 Bay Area municipalities, including the City of Santa Clara. Under the provisions of the Municipal NPDES permit, redevelopment projects that disturb more than 10,000 square feet are required to design and construct storm water treatment controls to treat post-construction storm water runoff. The permit requires the post-construction runoff from qualifying projects to be treated by using Low Impact Development (LID) treatment controls, such as biotreatment facilities. The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) assists co-permittees, such as the city of Santa Clara, in the implementation of the provisions of the Municipal NPDES permit. In addition to water quality controls, the Municipal NPDES permit 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 the permit 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 at least 65 percent impervious (per the city of Santa Clara Hydromodification Management Applicability Map). The project site is located in a catchment area that drains to a "hardened channel and/or tidal area"; thus, the project site is not subject to the SCVURPPP hydromodification requirements.

Federal Emergency Management Agency Flood Insurance Program. The magnitude of flood used nationwide as the standard for floodplain management is a flood having an average probability of occurrence of one percent in any given year. This flood is also known as the 100-year flood, or base flood. The Federal Insurance Rate Map (FIRM) is the official map created and distributed by Federal Emergency Management Agency (FEMA) for the National Flood Insurance Program that shows areas subject to inundation by the base flood for participating communities. FIRMs contain flood risk information based on historic, meteorologic, hydrologic, and hydraulic data, as well as open-space conditions, flood control works, and development.

State

State Sustainable Groundwater Management Act. The 2014 Sustainable Groundwater Management Act (SGMA) requires local public agencies and Groundwater Sustainability Agencies (GSAs) in high- and medium-priority basins to develop and implement Groundwater Sustainability Plans (GSPs) or Alternatives to GSPs. GSPs are detailed road maps for how groundwater basins will be managed to reach long term sustainability.

The Santa Clara Valley Water District (SCVWD) is the exclusive GSA for the Santa Clara Valley groundwater Subbasin, which contains the proposed project. SCVWD developed a groundwater management plan for the Santa Clara and Llagas Subbasins that is intended to be functionally equivalent to a GSP.

Local

City of Santa Clara Code, Prevention of Flood Damage. Chapter 15.45 of the Santa Clara City Code requires that buildings' lowest floor be constructed at least as high as the base flood elevation.

5.10.2 Applicant Proposed Measures

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.

5.10.3 Environmental Impacts and Mitigation Measures

a. Would the project violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction, Operation and Maintenance

Less Than Significant Impact. The proposed project would disturb about 16 acres of land and would be subject to construction-related storm water permit requirements of California's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) administered by the SWRCB. Prior to any ground-disturbing construction activity, the applicant must comply with the Construction General Permit, which includes preparation of a Storm Water Pollution Prevention Plan (SWPPP). With implementation of the construction SWPPP, redevelopment of the site would not cause a substantial degradation in the quality, or an increase in the rate or volume, of storm water runoff from the site during construction. In addition, the Municipal NPDES permit, as well as the SCVURPPP, requires that redevelopment not result in a substantial net increase in storm water flow exiting the project site during operation. As a result, runoff from the project site would not be expected to exceed the capacity of the local drainage system or to significantly contribute to the degradation of storm water runoff quality.

The project is expected to excavate soil at the existing site to a maximum depth of 12 feet below grade. It is therefore possible the project would encounter groundwater. It is therefore possible that dewatering would be necessary during construction. The site and adjacent properties have a history of groundwater contamination. If dewatering at the project site is necessary, and the discharge is found to be contaminated, the project owner would be required to obtain coverage under the VOC and Fuel General Permit (San Francisco RWQCB General Order No. R2-2017-0048 NPDES Permit No.

CAG912002). If the water is not found to be contaminated, the discharge would be a permitted activity under the Construction General Permit, per the San Francisco RWQCB's jurisdiction. In either situation, the project would not violate water quality standards or waste discharge requirements during construction and operation, and impacts would be less than significant.

Thus, the project would not be expected to violate water quality standards or waste discharge requirements during construction and operation, and impacts would be less than significant.

Required Mitigation Measures: None.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Construction, Operation and Maintenance

Less Than Significant Impact. Since the project would be located in an area served with imported surface water from the San Francisco Public Utilities Commission (SFPUC), the water supply to the project would not likely be from a groundwater source. The city's Urban Water Management Plan (UWMP) for 2015 shows that the city has sufficient supply to meet the project's demand, which is approximately 2.5 acre-feet during construction and 24.4 acre-feet per year (AFY) during operations, in normal and single dry year scenarios. However, the UWMP shows that the city would have a deficit in a multiple dry year scenario that assumes supply from SFPUC would be interrupted. Under this scenario, the city's supply from SFPUC might be interrupted if certain conditions specified in the interruptible contract between the city and SFPUC are met (Santa Clara 2016). If supply from SFPUC is interrupted, the city would have to replace the demand using groundwater or water supplied by SCVWD.

According to the UWMP, the groundwater basin has been managed successfully to prevent overdraft conditions. In case of a water supply shortage, the city has adopted water conservation policies to reduce demand such that available supplies are sufficient to meet demand (Santa Clara 2016).

Additionally, as discussed in **Section 5.18 Utilities and Service Systems**, the proposed water use would be about twice as much as the historic demand (12 AFY) of the industrial activity that existed at the proposed project site. The proposed project does not need a WSA to be prepared by the water purveyor. However, the WSA prepared by the city for the approved Mission College Boulevard Data Center with a proposed demand of 228.4 AFY, which is almost ten times that of the proposed project, concluded that the city would have sufficient supplies to meet that project's demand, and that demand

would have been consistent with growth projections and future water demand assumed in the preparation and analysis of the city's 2015 UWMP (Mission College 2019a, Santa Clara 2016).

Additionally, the currently proposed project does not meet the definition of a "project" for the purposes of preparing a WSA by the water supplier. The project's impact on groundwater supplies or recharge during construction and operation would therefore be less than significant.

Required Mitigation Measures: None.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would:

i. Result in substantial erosion or siltation on- or off-site;

Construction, Operation, and Maintenance

Less Than Significant Impact. The existing site is nearly covered with impervious surfaces and includes storm water collection and disposal facilities throughout the parcel. Construction of the proposed project would result in a reduction in impervious areas from 87 to 62 percent (by replacing some of the existing impervious areas with pervious ones for landscaping) and would also include a new storm water collection system that would incorporate source control and treatment best management practices (BMPs). These BMPs would reduce the overall runoff into the city's collection system and also reduce erosion and sedimentation impacts. This post-construction design would therefore not be expected to result in increased runoff (rate or volume) from the site. The storm water design is expected to comply with the SCVURPPP as well. Therefore, impacts would be less than significant.

Required Mitigation Measures: None.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Construction, Operation and Maintenance

Less Than Significant Impact. Surface runoff would be controlled as described in section (c)(i) above. Therefore, impacts would be less than significant.

Required Mitigation Measures: None.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or

Construction, Operation and Maintenance

Less Than Significant Impact. The proposed project would result in a reduction in impervious areas and would also include a new storm water collection system that includes drainage swales to reduce the overall runoff into the city's collection system. The discharge of polluted runoff would be expected to be similarly reduced. Therefore, impacts would be less than significant.

Required Mitigation Measures: None.

iv. Impede or redirect flood flows?

Construction, Operation and Maintenance

Less Than Significant Impact. Though the site is located between the Guadalupe River and the San Tomas Aquino Creek, these waterways do not pose a likely flood risk. According to the FEMA FIRM 06085C0064H, effective May 18, 2009, the project site is located within Zone X. Zone X is defined as areas of 0.2 percent annual chance of flood, areas of one percent chance of annual flood with average depth of less than one foot, or with drainage areas less than one square mile, and areas protected by levees from one percent annual chance of flood. The project site is also not within an area mapped as vulnerable to sea level rise in the National Oceanic and Atmospheric Administration's Digital Coast, Sea Level Rise Viewer (NOAA 2019).

The proposed project also would not be expected to add significantly to the existing potential of the site to impede flood flows. The proposed project would have significant structures, like the existing site did, that would similarly impede or redirect flood flows. Therefore, no net change in obstruction is expected from the proposed project and the impacts would be less than significant.

Required Mitigation Measures: None.

d. Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Construction, Operation and Maintenance

Less Than Significant Impact. Though the site is located adjacent to San Tomas Aquino Creek, these waterways do not pose a likely flood risk. The project site is located within Zone X. Also, the project site is not within an area mapped as vulnerable to sea level rise in the National Oceanic and Atmospheric Administration's Digital Coast, Sea Level Rise Viewer (NOAA 2019).

The project site is not located near a large body of water, the ocean, or steep slopes. Due to the location of the proposed project site, it would not be subject to inundation by seiche, tsunami, or mudflow.

The project site is within the inundation zones of two upstream reservoirs. Lexington Reservoir and James J. Lenihan Dam are located on Los Gatos Creek approximately 15 miles upstream. The Lenihan Dam Flood Inundation Map shows that dam failure would result in flooding at the project site, with an arrival time of about five hours (SCVWD 2016).

In the unlikely event of a flood, release of on-site pollutants would be prevented by the SWPPP, Worker Environmental Training, a Spill Prevention, Control, and Countermeasure Plan, a Hazardous Materials Business Plan, and through an emergency spill response program. All of these measures would work together to help keep potential pollutants properly contained. Therefore, the impacts would be less than significant.

Required Mitigation Measures: None.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Construction, Operation and Maintenance

Less Than Significant Impact. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the local water quality control plan. The project would comply with the Basin Plan by implementing the requirements of the Construction General Permit, as described in section (a) above, and through the preparation of a construction SWPPP. This impact would be less than significant.

SCVWD developed a groundwater management plan for the Santa Clara and Llagas Subbasins that is intended to be functionally equivalent to a GSP. The information contained in the SCVWD groundwater management plan is used to inform the city of Santa Clara's UWMP about groundwater supplies. Therefore, it is reasonable to rely on the UWMP, and WSAs prepared using UWMP information, to evaluate how a proposed project would impact the implementation of the sustainable groundwater management plan. The city's WSA, prepared for the 2305 Mission College Boulevard project, shows that it has sufficient supply to meet the proposed project's demand of 24.4 AFY in normal and single dry year scenarios (Mission College 2019a). However, the UWMP also shows that the city would have a deficit in a multiple dry year scenario that assumes that supply from SFPUC would be interrupted. Under this scenario, the city's supply from SFPUC might be interrupted if certain conditions specified in the interruptible contract between the city and SFPUC are met (Santa Clara 2016). If supply from SFPUC is interrupted the city would have to replace the demand using groundwater or supply water from SCVWD.

According to the UWMP, the groundwater basin has been managed successfully to prevent overdraft conditions. In case of a water supply shortage, the city has adopted water conservation policies to reduce demand such that available supplies are sufficient to meet demand (Santa Clara 2016). The proposed project would therefore not be expected to impede the implementation of the SCVWD's groundwater management plan. This impact would be less than significant.

Required Mitigation Measures: None.

5.10.4 References

CEMA 2009 - California Emergency Management Agency (CEMA). Tsunami Inundation Map for Emergency Planning, Mountain View Quadrangle. Prepared by the California Emergency Management Agency. Published July 31, 2009. Accessed on August 27, 2019. Accessed at: https://www.conservation.ca.gov/cgs/Documents/Tsunami/Maps/Tsunami_Inundation_MountainView_Quad_SantaClara.pdf

CGS 2001 - California Department of Conservation (CGS). Seismic Hazard Zone Report for the Milpitas 7.5-Minute Quadrangle, Santa Clara County, California. Seismic Hazard Zone Report 051. California Department of Conservation, 2001

DWR 2003 - Department of Water Resources (DWR). Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. California Department of Water Resources. October 8, 2003. Accessed on: August 15, 2019. Available online at: https://water.ca.gov/LegacyFiles/pubs/use/sb_610_sb_221_guidebook/guidebook.pdf

Mission College 2019a - Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

NOAA 2019 - National Oceanic and Atmospheric Administration (NOAA). Digital Coast, Sea Level Rise Viewer. Accessed on May 9, 2019. Accessed at: https://coast.noaa.gov/slr/#/layer/slr/0/-11581024.663779823/5095888.569004184/4/satellite/none/0.8/2050/interHigh/midAccretion

Santa Clara 2014 - City of Santa Clara (Santa Clara). 2010-2035 General Plan. Approved December 9, 2014. Accessed on: May 9, 2019. Available online at: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan

Santa Clara 2016 - City of Santa Clara 2015 Urban Water Management Plan (UWMP). Prepared by the City of Santa Clara Water and Sewer Utilities. Adopted November 22, 2016

SCVWD 2016 - Santa Clara Valley Water District, Lenihan Dam Flood Inundation Maps. Accessed February 20, 2020. Available at:

https://www.valleywater.org/sites/default/files/Lexington%20Dam%20Inundation%20Map%202016.pdf

5.11 Land Use and Planning

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to land use and planning.

LAND USE PLANNING Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

5.11.1 Setting

The 15.78-acre project site is in an area of the City of Santa Clara (City) that is developed with a mix of urban uses. Except for a residential development of two-story townhomes immediately north of the site on Agnew Road, the adjacent area consists mostly of office uses, technology companies, and various products and services businesses. Mission College Boulevard is a major thoroughfare bordering the south side of the site. A gated maintenance road that parallels San Tomas Aquino Creek borders the west side of the site. The Norman Y. Mineta San Jose International Airport is located approximately 1.6 miles south of the project site.

Regulatory Background

Federal

No federal regulations relating to land use and planning apply to the project.

State

No state regulations relating to land use and planning apply to the project.

Local

Comprehensive Land Use Plan, Norman Y. Mineta San Jose International Airport. The Santa Clara County Airport Land Use Commission (ALUC) adopted the Comprehensive Land Use Plan (CLUP) for the San Jose International Airport in 2011; the ALUC approved minor amendments to the CLUP in 2016. The purpose of the CLUP is to safeguard the welfare of the inhabitants in the airport vicinity and ensure that new land uses do not affect airport operations. The project site is located within the designated Airport Influence Area (AIA), which is a "composite of the areas surrounding the Airport

that are affected by noise, height, and safety considerations." "The AIA is defined as a…boundary around the airport within which all actions, regulations and permits must be evaluated by local agencies to determine how the Airport Comprehensive Land Use Plan policies may impact the proposed development" (Santa Clara County ALUC 2016).

The CLUP contains policies for evaluating the compatibility of land uses in the airport vicinity. Policies are included for potential land use impact categories of concern. The general compatibility policies applicable to ALUC consistency review include the following:

- G-5 – Where legally allowed, dedication of an avigation easement to the City of San Jose shall be required to be offered as a condition of approval on all projects located within an Airport Influence Area, other than reconstruction projects as defined in paragraph 4.3.7 [of the CLUP]. All such easements shall be similar to that shown as Exhibit 1 in Appendix A [of the CLUP].
- G-6 – Any proposed uses that may cause a hazard to aircraft in flight are not permitted within the AIA. Such uses include electrical interference, high intensity lighting, attraction of birds (certain agricultural uses, sanitary landfills), and activities that may produce smoke, dust, or glare. This policy requires the height at maturity of newly planted trees to be considered to avoid future penetration of the Federal Aviation Administration (FAA) Federal Aviation Regulations (FAR) Part 77 surfaces.
- G-7 – All new exterior lighting or large video displays within the AIA shall be designed so as to create no interference with aircraft operations. Such lighting shall be constructed and located so that only the intended area is illuminated and off-site glare is fully controlled. The lighting shall be arrayed in such a manner that it cannot be mistaken for airport approach or runway lights by pilots.

Policies concerning height compatibility include the following:

- H-1 – Any structure or object that penetrates the FAR Part 77, *Objects Affecting Navigable Airspace*, (FAR Part 77) surfaces as illustrated in Figure 6 [of the CLUP], is presumed to be a hazard to air navigation and will be considered an incompatible land use, except in the following circumstance. If the structure or object is above the FAR Part 77 surface, the proponent may submit the project data to the FAA for evaluation and air navigation hazard determination, in which case the FAA's determination shall prevail.
- H-2 – Any project that may exceed a FAR Part 77 surface must notify the FAA as required by FAR Part 77, Subpart B on FAA Form 7460-1, *Notice of Proposed Construction or Alteration*. (Notification to the FAA under FAR Part 77, Subpart B, is required even for certain proposed construction that does not exceed the height limits allowed by Subpart C of the FARs).

The objective of safety compatibility is to minimize the risks associated with potential aircraft accidents. Safety impacts are evaluated according to the Airport Safety Zones shown in Figure 7 of the CLUP. Staff reviewed Figure 7 and determined that the project site is not located within any of the Airport Safety Zones.

City of Santa Clara 2010-2035 General Plan. The project site is in an area of contiguous properties north of Mission College Boulevard designated Low-Intensity Office/Research and Development (R&D), as shown on the Land Use Diagrams for the General Plan's three planning phases. "This classification is intended for campus-like office development that includes office and R&D, as well as medical facilities and free standing data centers…" (City of Santa Clara 2010). The maximum floor area ratio is 1.00.

The General Plan designates a residential area north of the project site as Low Density Residential. A narrow corridor bordering San Tomas Aquino Creek immediately west of the project site is designated Parks/Open Space. An extensive area south of the project site, on the south side of Mission College Boulevard, is designated High Intensity Office/R&D.

Section 5.3.5 of the General Plan contains goals and policies pertaining to office and industrial development, including a policy on conformance with building height requirements as it pertains to the FAA:

- 5.3.5-P7 – Require building heights to conform to the requirements of the Federal Aviation Administration, where applicable.

Section 5.10.5 of the General Plan contains goals and policies on safety, including airport hazards and airspace protection. Policies concerning projects located in the AIA include the following:

- 5.10.5-P29 – Continue to refer proposed projects located within the Airport Influence Area to the Airport Land Use Commission.
- 5.10.5-P30 – Review the location and design of development within Airport Land Use Commission jurisdiction for compatibility with the Airport Land Use Compatibility Plan.
- 5.10.5-P32 – Encourage all new projects within the Airport Influence Area to dedicate an avigation easement.
- 5.10.5-P33 – Limit the height of structures in accordance with the Federal Aviation Administration Federal Aviation Regulations, FAR Part 77 criteria.

City of Santa Clara Zoning Code. The project site is in the ML, Light Industrial zoning district. Permitted uses include commercial storage and wholesale distribution warehouses; plants and facilities for the assembly, compounding, manufacture, packaging, processing, repairing, or treatment of equipment, materials, merchandise, or products; and uses of a similar nature. Permitted uses also include "[i]ncidental and accessory buildings, storage buildings, outdoor storage, warehouses, exposed mechanical appurtenances, and the like…" (City of Santa Clara 2019, § 18.48.030, subds. (b)(c)(e)).

Maximum permitted building height in the ML zoning district is 70 feet. The City's Zoning Code defines height of buildings as the vertical distance from the adjacent ground elevation "to the highest point of the coping of a flat roof…" (City of Santa Clara 2019,

§§ 18.06.010, subd. (h)(1); 18.48.070). The Zoning Administrator has the authority to permit a "minor modification" to the building height regulation so long as the increase does not exceed 25 percent of the zoning district's permitted maximum height. The height of mechanical equipment and any accompanying screening is subject to architectural committee approval (City of Santa Clara 2019, §§ 18.90.020, subd. (a); 18.48.140, subd. (f)). Each lot must have a street side front yard of not less than 15 feet in depth (City of Santa Clara 2019, § 18.48.080).

5.11.2 Applicant Proposed Measures

None.

5.11.3 Environmental Impacts and Mitigation Measures

a. Would the project physically divide an established community?

Construction, Operation and Maintenance

No Impact. The project would be constructed and operated on a single parcel of land. Since the late 1970s, the site has been developed with manufacturing, assembly, and distribution business uses. The parcel boundaries would remain the same, and the project would be consistent with previous uses. No changes are proposed involving construction of new off-site facilities that could physically divide the community. Therefore, project construction, operation and maintenance activities would not physically divide an established community, and no impact would occur.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Construction, Operation and Maintenance

Less Than Significant Impact. As discussed in the subsections that follow, construction, operation, and maintenance of the project would not conflict with land use plans or policies such that significant environmental impacts would occur.

Comprehensive Land Use Plan, Norman Y. Mineta San Jose International Airport. The Santa Clara County CLUP includes a general compatibility policy addressing dedication of an avigation easement to the City of San Jose as a condition of approval for projects located within an AIA (see Policy G-5, listed above under the subsection, "Regulatory Background"). As the permitting agency for the project, the City of Santa Clara would ensure consistency with Policy G-5 by requiring dedication of an avigation easement to the City of San Jose.

Policy G-6 does not permit uses within the AIA that may cause a hazard to aircraft in flight. Examples include uses that could cause electrical interference; high intensity lighting; or other uses that may produce smoke, dust, or glare. The project would not

involve use of any unlicensed high current, high frequency systems capable of interfering with flight operations, nor would it create smoke or dust or involve uses that could attract birds. The project's diesel generators and up-blast fans would discharge thermal plumes, but not at vertical velocities that would be expected to cause hazards to aircraft in flight, as discussed in section **5.17 Transportation** of this initial study. Recommended tree species for the project site are shown in the landscape plan for the proposed project (Mission College 2020b, Attachment BIO DR-60, Landscaping Plan). The planting schedule includes a mix of native and ornamental species that typically reach heights at maturity from 15 to 60 feet, which would be below the project's maximum structure height of 108.25 feet above ground level. (See also the analysis below for Policies H-1 and H-2 concerning height compatibility.) The project would be consistent with Policy G-6 from the CLUP.

Policy G-7 requires exterior lighting to be constructed and located to fully control off-site glare. As discussed in section **5.1 Aesthetics** of this initial study, outdoor lighting would be directed or shielded to ensure the project would not create a new source of substantial light or glare. Therefore, the project would be consistent with Policy G-7.

Policies H-1 and H-2 specify requirements to ensure that structures do not pose hazards to air navigation. Staff evaluated the potential for the project to impact operations at the Norman Y. Mineta San Jose International Airport, including creating conditions that might affect navigable airspace. Staff's calculations and analysis indicate that project structures would not penetrate or obstruct any FAA FAR Part 77 surface. (See sections **5.9 Hazards and Hazardous Materials** and **5.17 Transportation** of this initial study for the analysis details.) On January 30, 2020, the applicant filed FAA Form 7460-1, *Notice of Proposed Construction or Alteration*. As the permitting agency for the project, the City of Santa Clara would ensure compliance with FAA conditions, should any be imposed on the project. Therefore, the project would be consistent with the two CLUP policies concerning requirements for height compatibility.

City of Santa Clara 2010-2035 General Plan. The project site is in an area with the General Plan land use designation of Low Intensity Office/R&D. "This classification 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" (City of Santa Clara 2010). The project would be consistent with uses allowed in areas with this designation.

Floor area ratio is a tool for local governments to predict and limit the intensity of land uses and their resulting environmental impacts. The floor area ratio of a development is the total square footage of a building(s) on a lot divided by the total lot area. A project with a higher than allowed floor area ratio could cause environmental impacts relating to increased vehicle miles travelled, or VMT. The proposed project's building square footage is 490,000 square feet (sq. ft.). The lot area is 15.78 acres, or 688,488 sq. ft. Using those values, staff calculated the floor area ratio to be 0.71, which is

below the General Plan's maximum floor area ratio of 1.0 for properties designated Low Intensity Office/R&D. Therefore, no conflict with the regulation for floor area ratio would occur.

Sections 5.3.5 and 5.10.5 of the General Plan contain several policies with directives concerning airport hazards and airspace protection. (See the policies listed above for the *City of Santa Clara 2010-2035 General Plan* under the subsection, "Regulatory Background.") These policies essentially duplicate the content or intent of policies contained in the CLUP. As discussed above, the City would ensure compliance with FAA conditions, should any be imposed on the project. Therefore, the project would be consistent with General Plan policies like those contained in the CLUP.

City of Santa Clara Zoning Code. The Zoning Code grants the City Zoning Administrator the authority to permit minor modifications of height, area, and yard regulations. A "minor modification" cannot be greater than 25 percent of the dimensions of an area, space, or height, or other requirement provided for in the Zoning Code (City of Santa Clara 2019, § 18.90.020, subd. (a)). The Zoning Code also provides that where a proposed alteration or variation exceeds 25 percent of any requirement, the modification is deemed to be a variance, which requires approval by the Planning Commission at a noticed public hearing (City of Santa Clara 2019, §§ 18.90.020, subd. (a)(5); 18.108.030). The proposed site arrangement provides setback areas on all sides of the project site that exceed minimum yard depths specified in the Zoning Code.

Maximum permitted building height in the ML zoning district is 70 feet (City of Santa Clara 2019, § 18.48.070). As stated above, height of buildings is defined as the vertical distance from the adjacent ground elevation "to the highest point of the coping of a flat roof…" (City of Santa Clara 2019, § 18.06.010, subd. (h)(1)). The data center buildings would have a typical height of 87.8 feet from adjacent grade to the top of the parapet (Salas O'Brien 2020).[1] The proposed building height would be a 25.4 percent exceedance, which is above the 25 percent limit the Zoning Administrator can grant as a minor modification to the regulation. The City is requesting the applicant to lower the building height to no more than 87.5 feet, which would match the 25 percent maximum height increase specified in the Zoning Code (CEC 2020). The City expects that the applicant will modify the building plan elevations to achieve compliance with the 25 percent limit rather than having to request a variance from the regulation, which would require Planning Commission approval. Thus, if the Zoning Administrator grants the minor modification to the regulation to allow the 25 percent exceedance, the project would conform to the regulation limiting height of buildings in the ML zoning district, and no conflict would occur.

1 The parapet refers to that part of a perimeter wall immediately adjacent to a roof and extending above the roof. As a roofing term, coping is a protective cover on top of the wall that is typically slanted or curved to shed water.

The Zoning Code regulates additional development standards for the ML zoning district. The height of mechanical equipment and any accompanying screening is subject to architectural committee approval (City of Santa Clara 2019, § 18.48.140, subd. (f)). The project would include a rooftop penthouse to enclose mechanical equipment; the structure height to the top of the penthouse would be 108.25 feet from adjacent grade.

The Zoning Code's Special Height Regulations specify additional requirements, conditions, and exceptions for height limits. "[T]he height limitations contained in the schedule of district regulations do not apply to spires, belfries, cupolas, antennas, water tanks, ventilators, chimneys, or other mechanical appurtenances usually required to be placed above the roof level and not intended for human occupancy or to be used for any commercial or advertising purposes" (City of Santa Clara 2019, § 18.64.010, subd. (a)). Therefore, the heights and screening for the mechanical equipment and the penthouse hiding the equipment would conform to the City's Special Height Regulations.

A few purposes of a height limit are to preserve a scenic vista, protect the public view of a scenic resource, and to maintain the character of a site and surrounding area. As analyzed in section **5.1 Aesthetics**, the project would not significantly affect a scenic vista or scenic resources, and inclusive of the minor modification in allowable building height, the project would maintain the character of the site and surrounding area without causing a conflict with applicable zoning and other regulations governing scenic quality.

The applicant initially submitted its application for design review to the City on November 21, 2019. The applicant's subsequent submittals to the City have been in response to the City's technical comments. The City is continuing to work with the applicant to ensure the project plans meet City requirements. For the above reasons, the project would not cause a significant impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The environmental impacts would be less than significant.

Required Mitigation Measures: None.

5.11.4 References

CEC 2020 - California Energy Commission. (TN 232527). Report of Conversation with Steve Le, City of Santa Clara Community Development Department. March 20, 2020. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

City of Santa Clara 2010 - Community Development Department, Planning Division. *City of Santa Clara 2010-2035 General Plan*. Chapter 5 Goals and Policies. Section 5.2.2 Land Use Classifications and Diagram. Land Use Diagrams Phases I, II, and III. Section 5.10.5 Safety Goals and Policies. Accessed on March 4, 2020.

Available online at: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan

City of Santa Clara 2019 - City Code. Current through Ordinance 2010, passed November 19, 2019. Available online at: https://www.codepublishing.com/CA/SantaClara/#!/SantaClara18/SantaClara18.html

Mission College 2020b - Response to CEC staff data request set 2 (60-63), Mission College Backup Generating Facility (19-SPPE-05), February 27, 2020 (TN 232246). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Salas O'Brien 2020 - Project Clearance Committee Resubmission #2, Master Use Drawings (Submittal to the City of Santa Clara Community Development Department). Master Use Elevations G1100, G1200, G1300, and G1400. March 6, 2020

Santa Clara County ALUC 2016 - Santa Clara County Airport Land Use Commission. *Comprehensive Land Use Plan, Santa Clara County, Norman Y. Mineta San Jose International Airport*. Pages 1-1, 3-17, 4-4, 4-5, 4-7, 4-8, Figures 6, 7, and 8. Adopted by Santa Clara County Airport Land Use Commission, San Jose, CA, May 25, 2011; amended November 16, 2016. Accessed on March 4, 2020. Available online at: https://www.sccgov.org/sites/dpd/Commissions/ALUC/Pages/ALUC.aspx

5.12 Mineral Resources

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to mineral resources. Analysis of impacts is limited to project components where ground disturbance would occur, and operation of new facilities would limit access to mineral resources.

MINERAL RESOURCES **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Environmental checklist established by CEQA Guidelines, Appendix G.

5.12.1 Setting

Information on mineral resources was compiled from published literature, maps, and review of aerial photographs. Impacts to mineral resources from project construction and operational activities were evaluated qualitatively based on the area occupied by the project, site conditions, expected construction practices, anticipated materials used, and the locations and duration of project construction and operational activities.

The project site, located in the city of Santa Clara within Santa Clara County, is in an area identified as Mineral Resource Zone 1 (MRZ-1) for aggregate materials by the State of California (DOC 2015). MRZ-1 refers to an area where available geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood for their presence exists (DOC 2015). The project site and the immediate surrounding area are not known to support significant mineral resources of any type. No mineral resources are currently being extracted within the Santa Clara city limits (City of Santa Clara 2011).

Within Santa Clara County, the Communication Hill Area located about 8 miles south-southeast of the project site contains mineral deposits that are of regional significance as a source of constriction aggregate materials (City of San Jose 2011). The Division of Mine Reclamation's list of mines, referred to as the AB 3098 List, which is regulated under the California Surface Mining and Reclamation Act (SMARA), identifies four other facilities in Santa Clara County, the closest being the Curtner Quarry located about 6.7 miles

northeast of the project site (DOC 2016). None of these facilities is close enough to the site to be impacted by the project.

Regulatory Background

Federal

No federal regulations related to mineral resources apply to the project.

State

Surface Mining and Reclamation Act. SMARA requires that the State Geologist classify land into MRZ or Scientific Zones according to the known or inferred mineral potential of the land (Pub. Resources Code, §§ 2710-2796).

MRZs are defined as the following (DOC 2015):

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood for their presence exists.
- MRZ-2: Areas where adequate information indicates that significant deposits are present, or where it is judged that a high likelihood for their presence exists. The guidelines set forth two requirements to be used to determine if land should be classified MRZ-2:
    - The deposit must be composed of material that is suitable as a marketable commodity.
    - The deposit must meet threshold value. The projected value (gross selling price) of the deposit, based on the value of the first marketable product, must be at least $5 million (1978 dollars).
- MRZ-3: Areas containing mineral deposits, but their significance cannot be evaluated from available data.
- MRZ-4: Areas where available information is inadequate for assignment to any other MRZ category.

Scientific Zones are defined as**:** Areas containing unique or rare occurrence of rocks, minerals, or fossils that are of outstanding scientific significance shall be classified in this zone.

5.12.2 Applicant Proposed Measures

None.

5.13.3 Environmental Impacts and Mitigation Measures

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

Construction

No Impact. The project site is in a developed urban area and does not contain any known or designated mineral resources. Therefore, the project would not result in the loss of availability of a known mineral resource.

Operation and Maintenance

No Impact. The project site is in a developed urban area and does not contain any known or designated mineral resources. Therefore, the project would not result in the loss of availability of a known mineral resource.

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Construction

No Impact. The project site is in a developed urban area and does not contain any known or designated mineral resources. Therefore, the project would not result in the loss of availability of a locally important mineral resource recovery site.

Operation and Maintenance

No Impact. The project site is in a developed urban area and does not contain any known or designated mineral resources. Therefore, the project would not result in the loss of availability of a locally important mineral resource recovery site.

5.12.4 References

City of San Jose 2018 **-** Envision San Jose 2040 General Plan, Adopted November 1, 201, as amended on December 18, 2018. Accessed on December 24, 2019. Available online at: https://www.sanjoseca.gov/home/showdocument?id=22359

City of Santa Clara 2011 - City of Santa Clara Draft 2010-2035 General Plan, Integrated Final Environmental Impact Report, January 2011. Accessed on: December 24, 2019 Available online at: https://www.santaclaraca.gov/home/showdocument?id=12900

DOC 2015 - California Department of Conservation (DOC) – Surface Mining and Reclamation Act (SMARA) Mineral Lands Classification (MLC) data portal. Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area:

Classification of Aggregate Resource Areas: South San Francisco Bay Production-Consumption Region. Author: Melvin C. Stinson, Michael W. Manson and John J. Plappert (1987) Special Report 146. Accessed on: December 23, 2019. Available online at: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc

DOC 2016 - California Department of Conservation (DOC) - AB 3098 List. This list is updated daily. Accessed on: December 23, 2019. A link to this list is available online at: https://www.conservation.ca.gov/dmr

5.13 Noise

This section describes the environmental and regulatory setting and discusses the impacts associated with the construction[1] and operation of the project with respect to noise.

NOISE Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. 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?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

5.13.1 Setting

The project site is surrounded by industrial and commercial land uses. The project site is designated as Low Intensity Office/Research and Development under the City of Santa Clara 2010-2035 General Plan (Santa Clara 2014) and is zoned as MP (Planned Industrial). Surrounding zoning designations include PD - Planned Development, MP - Planned Industrial, and ML – Light Industrial. The nearest residential land use is located approximately 100 feet northwest of the project site boundary. The nearest airport is the Norman Y. Mineta San Jose International Airport located approximately 1.6 miles to the southeast.

The project site is surrounded by industrial, commercial, and office/R&D. To the north, across Agnew Avenue, approximately 100 feet from the project boundary, is a multi-family residential neighborhood, which is the closest residential area to the project site. Located to the west across San Tomas Aquino Creek is a Santa Clara Fire Department

1 The office/R&D building and other existing improvements on the site are currently being demolished under a city-issued demolition permit. Demolition noise is conservatively included with the construction noise of the project.

station. The California's Great America amusement park is located to the northwest, and to the east are a corporate campus building and a manufacturing and office complex. South of the site and across Mission College Boulevard are corporate office buildings.

The predominant ambient noise sources are attributed to the automobile traffic on Mission College Boulevard adjacent to the southern boundary of the project site, Agnew Avenue adjacent to the northwest project boundary, as well as Montague Expressway about a quarter mile east of the project site. Another prominent noise source is aircraft traffic arriving to and departing from the Norman Y. Mineta San José International Airport. Additional ambient sounds in the area include construction activity occurring in the planned development area to the north of the project site.

A noise survey consisting of one long-term measurement and three short term measurements was conducted for the proposed MCDC project between Friday, October 25, 2019 and Friday, November 1, 2019. The long-term measurements were taken at the northern corner of the project site along Agnew Avenue nearest the residential dwellings. The short-term surveys were 10 minutes in duration and were conducted at three different locations one after the other with a 10-minute lag in between. The first short-term survey was taken on the east side of the project site, and was done from 1:20 p.m. until 1:30 p.m. The second one was done along the west side of project site and was from 1:40 p.m. until 1:50 p.m. The third one was taken on the inside of the southern boundary of project site, about 75 feet north of Mission College Boulevard, and was conducted between 2:00 p.m. 2:10 p.m. The long-term survey conducted across the street from the residential dwellings found that the ambient noise level at the residential area is fairly high. The daytime one-hour L_{eq} for the long-term monitoring varied between 63 and 69 dBA, while the nighttime L_{eq} varied between 51 and 67 dBA. The 24-hour average for the long-term survey (CNEL) was consistently about 70 dBA (Mission College 2019a).

Another noise survey was conducted for the same project site in 2017 when the project owner obtained city approvals for a smaller data center that was planned to be constructed at the MCDC's proposed location. The earlier survey found similar noise levels to the recent survey. The day-night average noise level (L_{dn}) at Agnew Road was 72 dBA, and 71 dBA at Mission College Blvd. in the area of the nearby commercial buildings (Santa Clara 2018 - Appendix G).

This noise analysis evaluates the MCDC, including its backup generators.

Regulatory Background

Thresholds of Significance

The CEQA Guidelines state that a project would normally be considered to have a significant impact if noise levels conflict with adopted environmental standards or plans, or if noise levels generated by the project would substantially increase existing noise levels at noise-sensitive receivers on a permanent or temporary basis. CEQA does not

define what noise level increase would be substantial. The Santa Clara General Plan (Santa Clara 2014) defines an increase of 3 dBA as noticeable and 5 dBA as distinct. Typically, local noise ordinances (including Santa Clara General Plan) consider ambient noise level increases of more than 3 dBA due to a project to be potentially significant where resulting exterior noise levels would exceed the normally acceptable noise level standard. Where noise level would remain at or below the normally acceptable noise level standard with the project, most local noise ordinances consider a noise level increase of more than 5 dBA to be considered potentially significant.

City of Santa Clara 2010-2035 General Plan. The City of Santa Clara 2010-2035 General Plan describes the levels of exterior noise considered compatible for various land uses to guide land use planning decisions. The Santa Clara Municipal Code, discussed below, establishes more specific sound limits (Santa Clara 2019).

City of Santa Clara Municipal Code. Chapter 9.10 (noise ordinance) of the City of Santa Clara Municipal Code applies to the regulation of noise and vibration for this project. Section 9.10.040 specifies the exterior noise limits that apply to land use zones within the city. The city's exterior noise limit for light industrial (ML) and planned industrial (MP) land use zones is 70 dBA (anytime), the exterior noise limit for commercial land uses is 65 dBA daytime and 60 dBA nighttime, and the exterior noise limit for residential land uses is 55 dBA daytime and 50 dBA nighttime. The city's noise limits for stationary noise sources are not applicable to emergency work, including the operation of emergency generators during an emergency (Section 9.10.070); however, the intermittent testing of the emergency generators would be subject to the local noise regulations defined in the city's noise ordinance (Santa Clara 2019).

5.13.2 Applicant Proposed Measures

The project proposes to implement mitigation and design measures to reduce project noise to less than significant levels. Measure **PD NOI-1** would reduce construction noise and measure **PD NOI-2** would reduce operational noise. These measures are presented in the application's Project Description (Mission College 2019a).

PD NOI-1 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 to 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 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.

5.13.3 Environmental Impacts and Mitigation Measures

a. Would the project 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?

Construction

Less Than Significant Impact. In addition to construction of the MCDC, the project would require demolition of existing structures and removal of pertinent utilities. Demolition activities would likely utilize equipment that could generate noise levels that exceed ambient noise such as bulldozers and jackhammers. Typical equipment used for construction and demolition of similar projects produce noise levels between 75 and 95 dBA at 50 feet away from the equipment.

Using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) as the basis, the maximum noise level during the loudest phase of demolition and construction would be about 85 dBA on Agnew Avenue about 100 feet to the north of the project's northwest boundary (120 feet from noise source). During other, less noisy phases of construction, projected maximum noise levels would be 72 – 80 dBA (Mission College 2019a).[2] These noise levels were determined assuming the construction activity would be close to Agnew Avenue; project noise levels at the residential dwellings are expected to be lower when the construction activities are away from Agnew Avenue.

The Santa Clara Fire Department station located about 150 feet to the west of the project boundary is zoned as a public or quasi-public use and therefore has the same noise limits as those for residential uses. Since the distance to the fire station is greater than that to the residential area, the projected noise level due to the loudest construction phase would be slightly lower than that projected for the residential area.

The city exempts construction noise sources from its prescribed noise level limits as long as construction and demolition activities occur during the daytime hours of 7:00 a.m. to 6:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. Saturday, but prohibits construction work on Sundays and holidays.

2 Both in Table 4.13-6 of the SPPE application and in the discussion below the table, the applicant erroneously stated the maximum noise level as the average (equivalent) noise level, and vice versa, because the maximum cannot be lower than the average for any duration.

Construction noise would increase the existing ambient noise levels at the nearest boundary of the residential dwellings by 10-19 dBA (depending on the activity occurring and the equipment being used at the time). The upper end of this range would create substantial noise at this location and the impact would be significant. Even though the city exempts construction noise sources from its prescribed noise level limit, to reduce the impact to less than significant, the project applicant proposes to implement the mitigation measures included in **PD NOI-1**. The measures described in **PD NOI-1** are among the most effective and practical methods used and would adequately reduce construction noise levels to less than significant.

Operation and Maintenance

Less Than Significant Impact. The proposed emergency generators, which would be enclosed in equipment yards along the outside of the two main buildings, would provide backup power to the data center buildings in the event that an equipment failure or other conditions result in an interruption of the electricity provided by Silicon Valley Power. As discussed above, the city's exterior noise limit for planned industrial land use zones is 70 dBA (anytime), the exterior noise limit for commercial land uses is 65 dBA (daytime), and the exterior noise limit for residential land uses is 55 dBA (daytime). As described in the city's Municipal Code (Section 9.10.070), the city's noise limits for stationary noise sources are not applicable to emergency work, including the operation of emergency generators during an emergency. However, emergency generator testing would occur intermittently and one at a time such that they would not generate significant noise. Furthermore, each generator would be enclosed. The tests are subject to the local noise regulations defined in the city's noise ordinance. The applicant would use generators with specifications that ensure sufficient exhaust silencing and other design measures, if required, such that the project meets the city noise requirements. The 43 Caterpillar Model 3516C diesel generators that the project would use come with exhaust muffler options capable of reducing noise levels to meet project requirements (Mission College 2019b, Equipment Specifications).

Computer modeling was conducted for the project to assess the impact of its operation activities on nearby noise receptors.

During the MCDC's normal operation, noise sources would include HVAC units and cooling tower pumps and fans that would be on the MCDC building rooftop, and substation equipment (i.e., transformers). The worst-case scenario considered in the noise modeling was when the generators are tested in conjunction with the regularly operating equipment (normal operational mode). However, since the emergency generators would be tested one at a time, the noise generated during this scenario would not be substantially higher than that during normal operation. The frequency of testing the emergency generators is low (up to 42 hours per year) and testing would only occur during the daytime hours. Infrequent exceedance of the ambient

noise levels is generally not considered a significant impact.[3] Also, the project would comply with the city's noise standards. Thus, the project would not combine with this or any other nearby public airport to expose people to excessive noise levels. Moreover, the project site is not in the vicinity of a private airstrip.

Required Mitigation Measures: None.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction

Less Than Significant Impact. The only construction work likely to produce vibration that could be potentially significant when perceived off site would be pile driving, but pile driving would not occur for this project (Mission College 2019a).

Activities associated with demolition of the subgrade infrastructure would likely include vibration generating equipment such as jackhammers and vibratory rollers. This analysis relies on the vibration thresholds identified by Caltrans to determine the significance of vibration impacts related to adverse human reaction. These thresholds are consistent with local regulations. The threshold of human response begins at 0.16 in/sec. Caltrans characterizes this as a "distinctly perceptible" event (Caltrans 2013). A level of 0.20 in/sec has been found to be annoying to people in buildings and can pose a risk of architectural damage to buildings.

Jackhammers can cause a groundborne vibration rate of 0.035 in/sec at 25 feet (less than the threshold of human response) and vibratory rollers can cause a groundborne vibration of 0.21 in/sec at 25 feet (Caltrans 2013). The nearest residential and commercial/office buildings are approximately 120 feet away from project site boundaries. At this distance, 0.21 in/sec translates to about 0.037 in/sec; less than the threshold of human response.

Construction and demolition equipment and activities would be similar to those used at similar projects and vibration impacts from project construction and demolition would be less than significant.

Operation and Maintenance

Less Than Significant Impact. Sources of groundborne vibration associated with project operation would include the backup generators and air handling units. These pieces of equipment are well-balanced, as they are designed to produce very low vibration levels throughout the life of a project. In most cases, even when there is an imbalance, they could contribute to ground vibration levels only in the vicinity of the equipment and would be dampened within a short distance. Furthermore, the backup generators would be

3 As evidenced by numerous noise-related scientific studies and actual surveys conducted in various communities (including assessment of community reaction to infrequent exceedance of ambient noise)

equipped with exhaust silencers to reduce airborne vibration. Therefore, vibration impacts from project operation would be less than significant.

Required Mitigation Measures: None.

c. 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?

Construction, Operation and Maintenance

Less Than Significant Impact. The project site is located within an airport land use plan as it is located approximately 1.6 miles northwest of the Norman Y. Mineta San Jose International Airport. However, the project is located outside the Airport Noise Zone (the 65 CNEL contour, as set forth by state law) as defined in the Comprehensive Land Use Plan for the airport. Also, the project would comply with the city's noise standards. Thus, the project would not combine with this or any other nearby public airport to expose people to excessive noise levels. Moreover, the project site is not in the vicinity of a private airstrip.

Required Mitigation Measures: None.

5.13.4 References

Caltrans 2013 - California Department of Transportation (Caltrans). Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol, A Guide for Measuring, Modeling, and Abating Highway Operation and Construction Noise Impacts, Division of Environmental Analysis, Environmental Engineering, September 2013. Report No. CT-HWANP-RT-13069.25.3. Available online at: http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf

Mission College 2019a - Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2019b - Application for Small Power Plant Exemption: Mission College Data Center, Appendices A-C, dated November 2019. (TN 230844-47). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Santa Clara 2014 - City of Santa Clara (Santa Clara). City of Santa Clara 2010-2035 General Plan. Approved by City Council November 16, 2010 and updated December 9, 2014. Accessed on: February 11, 2020. Available online at: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan

Santa Clara 2018 - City of Santa Clara (Santa Clara). Initial Study for the 2305 Mission College Boulevard Data Center Project. March 2018. Accessed on: February 10, 2020. Available online at: http://santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/221/3649

Santa Clara 2019 - City of Santa Clara (Santa Clara). City of Santa Clara City Code, Chapter 9.0: Regulation of Noise and Vibration. Accessed on: February 11, 2020. Available online at: https://www.codepublishing.com/CA/SantaClara/html/SantaClara09/SantaClara0910.html

Santa Clara County 2016 - Santa Clara County Airport Land Use Commission. Comprehensive Land Use Plan. Amended November 16, 2016. Accessed on March 20, 2020. Online at: https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_SJC_CLUP.pdf

5.14 Population and Housing

This section describes the environmental and regulatory setting and discusses the impacts associated with the construction and operation of the project with respect to population and housing.

POPULATION AND HOUSING **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental checklist established by CEQA Guidelines, Appendix G.

5.14.1 Setting

The project is proposed in the City of Santa Clara in Santa Clara County. Nearby cities include the cities of Campbell, Cupertino, Milpitas, San Jose, and Sunnyvale. The applicant estimates the construction and operations workers would come from the greater Bay Area. Staff concludes that, because of their proximity to the project site, local workers from the greater Bay Area are not likely to temporarily (during construction) or permanently (during operations) move closer to the project. Workers with a greater commute would be considered non-local and would tend to seek lodging closer to the project site (temporarily during construction or permanently during operations). Staff considers the City of Santa Clara as the study area for population and housing-related impacts and the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area (MSA), which covers San Benito and Santa Clara counties, as the setting for labor supply for the project.

Population Growth

The City of Santa Clara has an estimated land area of 18.4 square miles. The Housing Element of the Comprehensive General Plan for the City of Santa Clara (adopted December 2014) forecasts population and housing estimates in three phases, reflecting the near (2010-2015), mid (2015-2023), and long term (2023-2035) horizons. By 2035, the general plan would allow for an additional 32,400 residents (Santa Clara 2014, pg. 2-4). The estimated 2019 population for the city was 128,717 people (CA DOF 2019).

Table 5.14-1 shows the historical and projected populations for the cities and communities within proximity of the project site, plus Santa Clara County. Population

projections between 2018 and 2035 show a growth ranging from 9 to 42.8 percent or 0.4 to 2.0 percent per year in the cities within and around a 6-mile radius of the project site.

TABLE 5.14-1 HISTORICAL AND PROJECTED POPULATIONS

Area	2010[1]	2019[2]	2020[3]	2040[3]	Projected Population Change 2019-2040 Number	Projected Population Change 2019-2040 Percent (%)	Projected Population Change 2019-2040 Percent per Year (%)
Campbell	39,349	43,250	43,700	47,120	3,870	9.0	0.4
Cupertino	58,302	59,879	63,515	68,305	8,426	14.1	0.7
Milpitas	66,790	76,231	90,645	103,970	27,739	36.4	1.7
San Jose	945,942	1,043,058	1,028,210	1,377,145	334,087	32.0	1.5
Santa Clara	116,468	128,717	131,655	159,500	30,783	23.9	1.1
Sunnyvale	140,081	155,567	149,935	222,210	66,643	42.8	2.0
Santa Clara County	1,781,642	1,954,286	1,986,340	2,538,320	584,034	29.9	1.4

Sources: [1]US Census 2010; [2]CA DOF 2019; [3]ABAG 2019

Housing

Table 5.14-2 presents housing supply data for the project area. Year 2019 housing estimates indicated 30,420 vacant housing units within Santa Clara County representing a vacancy rate of 4.5 percent (CA DOF 2019).

TABLE 5.14-2 HOUSING SUPPLY ESTIMATES IN THE PROJECT AREA

Housing Supply	2019 Total Number	2019 Vacant Number	2019 Vacant Percent
Campbell	18,096	919	5.1
Cupertino	21,022	987	4.7
Milpitas	22,027	742	3.4
San Jose	335,887	1,4331	4.3
Santa Clara	48,183	2,113	4.4
Sunnyvale	59,953	2,626	4.4
Santa Clara County	671,439	30,420	4.5

Source: CA DOF 2020

By 2035, the general plan would allow for an additional 32,400 residents in 13,312 new housing units, and 25,040 new jobs in 24,253,600 square feet of new non-residential development. This development would occur in addition to "in progress" development taking place under the general plan, for a total population of 154,990 and a total employment base of 152,860 by 2035 (Santa Clara 2014, pg. 2-4). The Santa Clara County regional housing needs assessment allocation for the City of Santa Clara is 4,093 new housing units for a projected county total of 58,836 housing units by 2023 (ABAG 2013, pg. 26).

Labor Supply

According to the California Employment Development Department 2016-2026 Occupational Employment Projections for the San Jose-Sunnyvale-Santa Clara MSA, the 2026 projected employment for the construction and extraction occupations is 52,430, which is a 1.2 percent annual average percent change from 2016 estimated employment levels (46,900) as shown in **Table 5.14-3** (CA EDD 2019). In addition, the projected employment for general and operations managers is 19,590, which is a 1.2 percent annual average percent change from 2016 estimated employment levels (17,520). The projected employment for security guards is 9,390, which is a 1.0 percent annual average percent change from 2016 estimated employment levels (8,510). The projected employment for janitors is 17,910, which is a 0.8 percent annual average percent change from 2016 estimated employment levels (16,520) (CA EDD 2019).

TABLE 5.14-3 PROJECTED EMPLOYMENT GROWTH

San Jose-Sunnyvale-Santa Clara MSA	Year 2016	Year 2026	Annual Average Percent Change
Construction and Extraction Trades	46,900	52,430	1.2
General and Operations Managers	17,520	19,590	1.2
Security Guards	8,510	9,390	1.0
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	16,520	17,910	0.8

Source: CA EDD 2019

Regulatory Background

No regulations related to population and housing apply to the project.

5.14.2 Applicant Proposed Measures

None.

5.14.3 Environmental Impacts and Mitigation Measures

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Construction

Less Than Significant Impact. The project would not directly or indirectly induce substantial unplanned growth in the City of Santa Clara as the project does not propose new housing or land use designation changes, nor does it facilitate growth by extending growth inducing infrastructure such as roads or water supply pipelines. While the project includes 45 backup generators (43 emergency generators and 2

house power generators), the electricity produced would directly serve the project if utility power interruptions occurred and would not be an extension of infrastructure that would result in indirect population growth.

Construction activities would last approximately 25 months occurring in two phases (Mission College 2019a, pg. 19). Each phase of construction represents the construction of each building and its associated generator yard. Construction of the Silicon Valley Power (SVP) substation would take place during Phase 2 and require a maximum of 25 workers. Substation construction worker numbers are included in the project's total construction workforce numbers. Existing SVP employees would perform some substation work; however, a majority of the work would be performed by subcontractors drawn from the local workforce (Mission College 2020a). Construction of the project would employ an average of 62 workers and reach a peak workforce of 115 workers (Mission College 2019a, pg. 19).

The applicant anticipates all of the construction workforce for the project would be sourced locally from the greater Bay Area (Mission College 2019a, pg. 197). As shown in the "Setting" subsection of this analysis, there is a sufficient local construction workforce in the San Jose-Sunnyvale-Santa Clara MSA to accommodate the project; thus, the construction workforce would not likely seek temporary lodging closer to the project site. Therefore, the project's construction workforce would not directly or indirectly induce substantial population growth in the project area. The impact would be less than significant.

Operation and Maintenance

Less Than Significant Impact. The project would employ a total of 57 operations workers, 30 full time and 27 part time employees (Mission College 2019a, pg. 164). The applicant anticipates all of the operations workforce would be sourced from the greater Bay Area (Mission College 2019a, pg. 197). Based on the proximity of the supply of operations workers, they are not likely to relocate closer to the project. As shown in the "Setting" subsection of this analysis, there is a sufficient local operations workforce in the San Jose-Sunnyvale-Santa Clara MSA. If some operations workers were to relocate, housing data shows a vacancy rate of 4.5 percent in Santa Clara County and 4.4 percent in the City of Santa Clara. A 5-percent vacancy is a largely industry-accepted minimum benchmark for a sufficient amount of housing available for occupancy (Virginia Tech 2006). While the vacancy rate in the county and city is slightly lower than the minimum benchmark, housing counts in the project area indicate a sufficient supply of available housing units for the possible few operations workers that could seek housing closer to the project. In addition, the city's general plan has accounted for population growth in the City of Santa Clara. If the few new operation workers were to relocate closer to the project site, it would not result in substantial unplanned population growth. Therefore, the project's operations workforce would not directly or indirectly induce a substantial population growth in the project area. The impact would be less than significant.

Required Mitigation Measures: None.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Construction, Operation and Maintenance

No Impact. The project would occur on a parcel currently occupied by office/R&D buildings (demolition underway) and therefore would not displace any people or housing. Construction of replacement housing elsewhere would not be necessary and thus, no impact would occur.

5.14.4 References

ABAG 2013 - Association of Bay Area Governments (ABAG). Final Regional Housing Need Allocation 2015-2023, Adopted July 18, 2013.Available online at: https://abag.ca.gov/sites/default/files/2015-23_rhna_plan.pdf

ABAG 2019 - Association of Bay Area Governments (ABAG). Projections 2040 by Jurisdiction, formated_tables_juris.xlxs. Data last updated May 1, 2019. Available online at: https://data.bayareametro.gov/Demography/Projections-2040-by-Jurisdiction/grqz-amra

CA DOF 2019 - California Department of Finance (CA DOF). E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2019, with 2010 Benchmark, May 2019. Available online at: http://dof.ca.gov/Forecasting/Demographics/Estimates/E-5/

CA EDD 2019 - Employment Development Department, State of California (CA EDD). Labor Market Information Division, 2016-2026 Occupational Employment Projections, San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area, (San Benito and Santa Clara Counties), data last update May 28, 2019. Available online at: https://data.edd.ca.gov/Employment-Projections/Long-Term-Occupational-Employment-Projections/4yzm-uyfq/data

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05.

Mission College 2020a - Response to CEC staff data request set 1 (1-59), Mission College Backup Generating Facility (19-SPPE-05), February 2020 (TN 231960 and 232047). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Santa Clara 2014 - City of Santa Clara (Santa Clara). General Plan Land Use Component and Housing Element Updates, EIR Addendum. Prepared by ESA, November 2014. Adopted December 9, 2014. Available online at: https://www.santaclaraca.gov/home/showdocument?id=46446

US Census 2010 - United States Census Bureau (US Census). P1: TOTAL POPULATION - Universe: Total population, 2010 Census Summary File 1. Available online at: http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

5.15 Public Services

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to public services.

PUBLIC SERVICES Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Fire protection?	☐	☐	☒	☐
b. Police protection?	☐	☐	☒	☐
c. Schools?	☐	☐	☒	☐
d. Parks?	☐	☐	☒	☐
e. Other public facilities?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

5.15.1 Setting

The project is proposed in the City of Santa Clara in Santa Clara County. Fire and police protection services are provided from departments within the City of Santa Clara. Recreation facilities and other public facilities like libraries are within the City of Santa Clara. The project site is within the Santa Clara Unified School District boundaries. The study area for public services-related impacts is the City of Santa Clara. Site preparation activities include the demolition of existing structures (358,000 square foot office/R&D building), ground preparation, and grading. Demolition activities are currently occurring under a city-issued demolition permit. The project would construct two, three-story data center buildings that would encompass a combined total of 490,000 square feet, a substation, two-generation equipment yards, surface parking, and landscaping. A transmission line with new poles would connect the project to a new Silicon Valley Power (SVP) substation to be located in the northeastern corner of the site.

Fire Protection

The project would be located within the jurisdiction of the Santa Clara Fire Department (SCFD). The SCFD provides fire suppression, emergency medical, fire prevention, and hazardous materials services to the City of Santa Clara (Santa Clara 2020a). There are 10 fire station districts in the City of Santa Clara; the project site is located in District 8 at 2400 Agnew Road, approximately 300 feet west of the project site (Santa Clara 2020b).

SCFD has approximately 167 fire service personnel supplemented by 40 Reserve Firefighters when fully staffed. In 2018, SCFD had a total call volume of 9,050 calls.

Approximately 77 percent of the calls were for emergency medical service, 21 percent were for fire, 16 percent were for alarm activation, 10 percent were for service, 2 percent were for hazardous materials, and 0.4 percent were for technical rescue. (Santa Clara 2018) Based on the city's 2018-estimated population and the department's current fire personnel roster, the department's staffing ratio is 1.3 fire personnel for every 1,000 residents. The city is not in a very high fire hazard severity zone in a local responsibility area (CalFire 2008).

Police Protection

Police protection would be provided by the Santa Clara Police Department (SCPD). SCPD has two police stations. Northside Substation, located approximately 1 mile northeast, is the closest station to the project site.

In 2019, there were 44,323 calls for service. The department's average response time is approximately 4.26 minutes after dispatch. Police staff includes 159 sworn officers and 80 civilian professionals. As of 2019, there are 1.2 officers for every 1,000 residents. (Santa Clara 2020c)

Schools

The project would be located within the Santa Clara Unified School District. The district covers 56 square miles and is located in the northwestern portion of Santa Clara County (SCUSD 2020). This district serves the cities of Santa Clara, Sunnyvale, San Jose, and Cupertino. The Santa Clara Unified School District had an enrollment of 15,387 students in the 2018/2019 school year (CDE 2019). Santa Clara Unified School District facilities include: 2 alternative schools, 1 continuation high school, 1 community day school, 2 high schools, 3 middle schools, 17 elementary schools, and 1 K-8 school (CDE 2018). The nearest school, Kathryn Hughes Elementary School, is 1.5 miles northeast of the project site.

Parks

The City of Santa Clara has 350 total park acres, made up of improved and unimproved acreage (Santa Clara 2019d). Included in the park and recreation areas are community parks, mini/pocket parks, neighborhood parks, public open space, recreation facilities, recreational trails, and joint use facilities (Santa Clara 2014). The City of Santa Clara has a parkland dedication/in lieu standard based on the city's existing ratio of developed park acreage per 1,000 residents (Santa Clara 2014, Santa Clara 2019). The service population used to estimate the existing service standard for parks in the current development impact fee update study (April 2019) is 126,408 residents (Santa Clara 2019).[1] With a

1 While the April 2019 City of Santa Clara Park and Recreation Facilities Development Impact Fee Update Study is an Administrative Draft, the methodology used to estimate the park standard associated with the mitigation fee is consistent with that used in the June 2014 Final Development Impact Fee Study.

combined total of 328 acres[2], Santa Clara has approximately 2.6 acres per 1,000 residents and meets its park standards (Santa Clara 2019, pg. 19).

The closest park is Agnew Park, located 0.25 mile northeast of the project site. The two-acre park provides a neighborhood recreation building, a children's playground, restrooms, picnic facilities, and basketball courts. This park is maintained by the City of Santa Clara.

Other Public Facilities

The Santa Clara City Library has three branches to serve the City of Santa Clara. The closest library to the project site is the Northside Branch Library, which is located approximately 1.4 mile to the east (Santa Clara 2020d).

Regulatory Background

No regulations related to public services apply to the project.

5.15.2 Applicant Proposed Measures

None.

5.15.3 Environmental Impacts and Mitigation Measures

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

a. Fire protection?

Construction

Less Than Significant Impact. The project is located on a site already served by fire protection services as it is currently developed with a two-story 358,000-square foot office/R&D building (demolition underway). The site is surrounded primarily by light industrial and R&D land uses with the exception of a multifamily residential development located north of the site.

Project construction activities that could pose a risk for fire or the need for fire protection response due to heated exhaust or sparks, include the use of grinders, cranes, excavation equipment, vehicles, and bulldozers. Other construction activities

2 Total acres of improved and unimproved parkland that meets the Mitigation Fee Act Standard.

with a potential fire risk due to heat sources or open flames could include the use of torches or welding equipment.

The standard for response to structure fire calls for the first unit to arrive is under 6 minutes from dispatch of alarm, 90 percent of the time. Current data show the SCFD arrived in less than 6 minutes, 90 percent of the time. The SCFD standard for an effective firefighting force (17 personnel) on scene is less than 10 minutes from dispatch of alarm, 90 percent of the time for structure fire calls. Current data shows that SCFD arrived in less than 10 minutes, 90 percent of the time. For emergency medical calls, the standard for an advanced life support fire company is to arrive in under 8 minutes from dispatch of the alarm, 90 percent of the time. Current data shows that SCFD arrived in less than 8 minutes, 90 percent of the time. Upon notification and dispatch, SCFD response time for all types of emergencies is within 6 minutes, 90 percent of the time (Santa Clara 2018).

As the project is located on a site already served, emergency response time to the project would be consistent with a 6-minute response. While there may be a slight increased need for fire protection response during project construction, these effects would not be sufficient to induce the construction of new or physically altered governmental facilities that could result in significant environmental impacts; therefore, the impact would be less than significant.

Operation and Maintenance

Less Than Significant Impact. The project would employ a total of 57 operations workers. The applicant estimates the workers would be hired locally from the greater Bay Area (Mission College 2019a, pg. 197). Based on the proximity of the supply of operations workers, they are not likely to relocate closer to the project. The few operations employees that may move into the city and within the service area would have a negligible effect on the ability of the fire stations that serve the project site to meet their emergency service and response standards.

Some emergency generators would be constructed in a stacked configuration. The top-level of the stacked generators would each have a day tank capable of storing 500 gallons of diesel fuel that is fed from the lower level fuel tank that has a diesel storage capacity of 10,000 gallons. Generators not in a stacked configuration would have a fuel tank with a storage capacity of 5,000 gallons. The two house power generators would have a fuel tank storage capacity of 1,000 gallons. The diesel tanks would be double-walled and equipped with leak detection systems. The project would conform to relevant laws and regulations and prepare a Hazardous Materials Business Plan for the safe storage and use of chemicals onsite (see **Section 5.9 Hazards and Hazardous Materials**). Diesel fuel deliveries would be on an as needed basis in a compartmentalized truck. An emergency pump shut-off would be used if a pump hose breaks while fueling the tanks (Mission College 2019a, pg. 128). The project would be constructed in accordance with current fire codes (Mission College 2019a, pg. 26). Also, the Fire Department would review the site development plans to ensure fire

protection design features are incorporated and adequate emergency access is provided (Mission College 2019a, pg. 132). With all of the above elements, the impact to the fire protection services would be less than significant.

Required Mitigation Measures: None.

b. Police Protection?

Construction

Less Than Significant Impact. The construction workforce is not expected to relocate closer to the project site and would not increase the demand for emergency response services, including police protection. Existing perimeter fencing would be retained to reduce potential criminal activity at the site, such as vandalism or theft. In addition, construction of the project would include permanent perimeter fencing, either screening walls or an eight-foot high metal palisade security fence, to adequately secure the site once construction is completed. Furthermore, outdoor security lighting would be installed onsite, along the buildings and driveway entrances (Mission College 2019a, pg. 46). As noted in the "Setting" subsection above, SCPD meets their response goals. The response goals for the police department would not be significantly affected by the project nor would the project induce construction of new or physically altered governmental facilities, such as police stations that could result in significant environmental impacts; therefore, the impact would be less than significant.

Operation and Maintenance

Less Than Significant Impact. The 57 operations workers that would be employed by the project would have a negligible effect on the emergency response times of the stations that serve the project site and vicinity. This limited effect would be from the few workers who may choose to relocate closer to the project site. As described in the construction analysis above, the project would be secured by fencing and include adequate lighting minimizing the occurrence of criminal activity during operations. Additionally, the police department would review the final site design to ensure the project provides adequate safety and security measures (Mission College 2019a, pg. 168). Due to the perimeter fencing and lighting, criminal activity would be adequately deterred during operation. Therefore, the project would not result in substantial adverse physical environmental impacts associated with the provision of new or physically altered police service facilities in order to maintain acceptable service ratios, response times, or other performance objectives. The impact would be less than significant.

Required Mitigation Measures: None.

c. Schools?

Construction, Operation and Maintenance

Less Than Significant Impact. The project would be in the Santa Clara Unified School District. District Board Policy (BP 7211 Facilities: Developer Fees) allows the Board of Trustees to establish, levy, and collect developer fees on residential, commercial, and industrial construction within the district. Government Code section 65995 expressly provides that "[t]he payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995… are hereby deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving but not limited to, the planning, use, or development of real property, or any change in governmental organization… on the provision of adequate school facilities." The current school impact fee for the district is $0.61 per square foot of covered, enclosed commercial/industrial space (SCUSD 2018). Based on the proposed size of the building (490,000 square feet total), an estimated $298,900 would be assessed. These fees would be collected at the time the applicant applies for building permits from the City of Santa Clara; therefore, the impact would be less than significant.

Required Mitigation Measures: None.

d. Parks?

Construction

No Impact. As identified in the "Setting" subsection, the city is currently meeting its park standards with a ratio of 2.6 acres per 1,000 residents. Construction of the project would require an average of 62 workers and a peak of 115. The construction needs of the project would not require an influx of new workers and would be met by the workforce from neighboring cities and counties within the greater Bay Area (see **Section 5.14 Population and Housing**). Also, construction workers who may temporarily relocate closer to the project do not typically visit area parks or park facilities as they are working while in the project area and tend to return to their primary residence for the weekends. Therefore, construction of the project would not affect park standards or increase the demand for park facilities. The project construction would have no impact on parks or park facilities.

Operation and Maintenance

Less Than Significant Impact. Approximately 57 operations workers are expected to be employed by the project. Like the project construction workforce, operations employees would be drawn from the greater Bay Area and are not likely to relocate closer to the project. If some operations workers were to relocate, the few new residents would have a negligible increase on the usage of or demand for parks or other recreational facilities. Therefore, the project would not result in substantial adverse physical environmental impacts associated with the provision of new or

physically altered park facilities in order to maintain acceptable service ratios or other performance objectives. The impact would be less than significant.

Required Mitigation Measures: None.

e. Other Public Facilities?

Construction

No Impact. The project construction workforce would be drawn from the greater Bay Area and workers would not likely relocate closer to the project site. However, if some construction workers relocate temporarily, they are not likely to visit public facilities such as public libraries while working in the project area and would tend to return to their primary residence for the weekends. There would be no impacts to public facilities during project construction.

Operation and Maintenance

Less Than Significant Impact. As discussed above, the project's anticipated 57 operations employees are expected to be drawn from the greater Bay Area and are not expected to relocate closer to the project site. However, if some operations workers were to relocate, the few new residents would likely have a negligible increase in the usage of or demand for the surrounding libraries or public facilities; therefore, the project's operations impact would be less than significant.

Required Mitigation Measures: None.

5.15.4 References

CalFire 2008 - Cal Fire. Santa Clara County FHSZ Map in Local Responsibility Area. October 8, 2008. Accessed on: January 2, 2020. Available online at: https://osfm.fire.ca.gov/media/6764/fhszl_map43.pdf

CDE 2018 - California Department of Education (CDE). California Department of Education Educational Demographics Unit, Data Quest, Selected District Level Data - 4369674--Santa Clara Unified for the year 2017-18. Available online at: https://dq.cde.ca.gov/dataquest/Cbeds3.asp?cSelect=4369674--Santa+Clara+Unified&cChoice=DstProf2&cYear=2017-18&cLevel=District&cTopic=Profile&myTimeFrame=S&submit1=Submit

CDE 2019 - California Department of Education (CDE). California Department of Education Educational Demographics Unit, Data Quest, Select District Level Data for the year 2018 - 2019, Enrollment by Ethnicity and Grade, Santa Clara Unified Report (43-69674). Available online at: https://dq.cde.ca.gov/dataquest/dqcensus/EnrEthGrd.aspx?cds=4369674&agglevel=District&year=2018-19

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Santa Clara 2014 - City of Santa Clara (Santa Clara). City of Santa Clara Park and Recreation Facilities Final Development Impact Fee Study, June 2014. Prepared by: Willdan Financial Services. Available online at: https://www.santaclaraca.gov/Home/ShowDocument?id=18463

Santa Clara 2018 - City of Santa Clara (Santa Clara). City of Santa Clara Fire Department Annual Report 2018. Accessed on: January 2, 2020. Available online at: https://www.santaclaraca.gov/home/showdocument?id=64140

Santa Clara 2019 - City of Santa Clara (Santa Clara). City of Santa Clara Park and Recreation Facilities Development Impact Fee Update Study. Administrative Draft. April 9, 2019. Prepared by: Willdan Financial Services. Available online at: https://www.santaclaraca.gov/home/showdocument?id=63995

Santa Clara 2020a - City of Santa Clara (Santa Clara). Santa Clara Fire Department Website – About Us. Accessed on: January 2, 2020. Available online at: https://www.santaclaraca.gov/our-city/departments-a-f/fire-department/about-us

Santa Clara 2020b - City of Santa Clara (Santa Clara). Santa Clara Fire Department Website - City of Santa Clara: Public Safety. Accessed on: January 2, 2020. Available online at: http://missioncity.maps.arcgis.com/apps/MapTour/index.html?appid=15779cefd9bc463d8bc6229b61d921d5

Santa Clara 2020c - City of Santa Clara (Santa Clara). Santa Clara Police Department Website – Fact Sheet. Accessed on: January 2, 2020. Available online at: https://www.santaclaraca.gov/our-city/departments-g-z/police-department/about-us/fact-sheet

Santa Clara 2020d - City of Santa Clara City (Santa Clara). Santa Clara City Library Website- About the Library. Accessed on: February 5, 2020. Available online at: https://www.sclibrary.org/about-us/locations-and-hours/northside-branch-library

SCUSD 2018 - Santa Clara Unified School District (SCUSD). Santa Clara Unified School District Developer Fee. Approved on March 22, 2018 and effective May 22, 2018. Accessed on: January 2, 2020. Available online at: https://www.santaclarausd.org/Page/53

SCUSD 2020 - Santa Clara Unified School District (SCUSD). Santa Clara Unified School District, About Us. Accessed on: January 2, 2020. Available online at: https://www.santaclarausd.org/domain/15

5.16 Recreation

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to recreation.

RECREATION	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

5.16.1 Setting

The project is proposed in the City of Santa Clara in Santa Clara County. Site preparation activities include the demolition of existing structures (358,000 square foot office/R&D building), ground preparation, and grading. Demolition activities are currently occurring under a city-issued demolition permit. The project would construct two, three-story data center buildings that would encompass a combined total of 490,000 square feet, a substation, two-generation equipment yards, surface parking, and landscaping. A transmission line with new poles would connect the project to a new Silicon Valley Power (SVP) substation to be located in the northeastern corner of the site.

While nearby cities include the cities of Campbell, Cupertino, Milpitas, San Jose, and Sunnyvale, staff considers the City of Santa Clara as the project study area for recreation impacts. This is consistent with staff's experience that local workers are not likely to temporarily or permanently relocate closer to the project site (see **Section 5.14 Population and Housing**) and thus, not add new users to the city's recreation facilities.

Recreation Facilities

The City of Santa Clara has 2 community parks, 6 mini parks, 26 neighborhood parks, 3 open space parks, 5 recreational facilities, 4 trail reaches, and 11 joint use facilities for a total of approximately 255 acres of developed parks, not including city golf courses and 98 acres of undeveloped parks (Santa Clara 2019a, pages 6-8). The closest recreational resource is Agnew Park, located 0.25 mile northeast of the project site. The two-acre park provides a neighborhood recreation building, a children's playground, restrooms, picnic facilities, and basketball courts. This park is maintained by the City of Santa Clara.

Regulatory Background

No regulations related to recreation apply to the project.

5.16.2 Applicant Proposed Measures

None.

5.16.3 Environmental Impacts and Mitigation Measures

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Construction

No Impact. The project would require an average of 62 workers during construction and a maximum of 115 workers during the peak construction period. Construction is expected to last for approximately 25 months. The applicant estimates that all of the construction workforce would be recruited from the greater Bay Area and would likely be drawn from the San Jose-Sunnyvale-Santa Clara region.[3] Based on the proximity of the available workforce to the project, construction workers from neighboring cities and counties are not likely to temporarily relocate closer to the project site or visit the nearby parks. Thus, the project would not increase the use of or accelerate the physical deterioration of parks or other recreational facilities. Therefore, the project would have no impact on the surrounding parks and recreational facilities.

Operation and Maintenance

Less Than Significant Impact. The project would employ 57 operations workers who would be drawn from the greater Bay Area (see **Section 5.14 Population and Housing**). Based on the proximity of the supply of operations workers, they are not likely to relocate closer to the project. Even if some operations workers were to move closer to the project, they would not be in numbers where the use of existing parks or recreational facilities would be increased to the extent that substantial physical deterioration of the park or facility would result. The impact to surrounding parks and recreational facilities would be less than significant.

Required Mitigation Measures: None.

3 Region in this instance is the Metropolitan Statistical Area. A Metropolitan Statistical Area is a geographical region with a relatively high population density at its core and close economic ties throughout the area.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Construction

No Impact. Recreational facilities are not included as part of the project nor would the project require the construction or expansion of recreational facilities. The construction needs of the project would not require an influx of new workers and would be supplied by the existing workforce from the surrounding greater Bay Area including nearby cities and counties. Construction workers would commute to the project site during the 25 months of construction and they are not likely to temporarily relocate closer to the project. Therefore, the project would have no impact to recreational facilities.

Operation and Maintenance

Less Than Significant Impact. Operation of the project would be conducted by 57 onsite employees (Mission College 2019a). If some operations workers did move closer to the project, they would not be in numbers that would require the construction or expansion of recreational facilities. Therefore, the project would have less than significant impact on local recreation facilities and would not require the construction or expansion of recreational facilities to accommodate the project.

Required Mitigation Measures: None.

5.16.4 References

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Santa Clara 2019 - City of Santa Clara (Santa Clara). City of Santa Clara Park and Recreation. Facilities Development Impact Fee Update Study – Administrative Draft, April 9, 2019, prepared by Willdan Financial Services. Available online at: https://www.santaclaraca.gov/home/showdocument?id=63995

5.17 Transportation

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to transportation.

TRANSPORTATION **Would the project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G

5.17.1 Setting

The project would be located in the City of Santa Clara at 2305 Mission College Boulevard. Direct motor vehicle access to the project site would be from a driveway on Mission College Boulevard, and driveways on Agnew Road would be for emergency access and access to the substation. Local roadways include Lafayette Street to the west, Mission College Boulevard along the project site's southern boundary, and Agnew Road along the project site's northern boundary. Regional access would be provided from State Route 237 to the north, U.S. Highway 101 (US-101) to the south, and Interstate 880 to the east.

Other transportation infrastructure near the project site includes bicycle lanes, bus transit, Union Pacific Railroad (UPRR) tracks with passenger service, and the Norman Y. Mineta San Jose International Airport. There are Class II bike lanes (striped bike lanes on roadways that are marked by signage and pavement markings) on Mission College Boulevard and Agnew Road. There is an existing sidewalk on Mission College Boulevard adjacent to the project site and there are no sidewalks adjacent to the project site on Agnew Road. There is a bus stop for Santa Clara County Valley Transportation Authority (VTA) Bus Route 59 and Yellow Altamont Commuter Express shuttle along the project site's southern frontage on Mission College Boulevard. Along Agnew Road there are two bus stops for VTA Bus Route 20 within 500 feet of the project site. Caltrain, Altamont Commuter Express (ACE), and Amtrak's Capitol Corridor provide longer-distance passenger train service to neighboring counties/regions. The closest station for ACE and Amtrak's Capital Corridor is approximately one mile north of the project site at the Great American Station. The closest station for Caltrain is approximately two miles southwest

of the project site at the Santa Clara Transit Center. (VTA 2019) There is a Caltrain shuttle stop located on Mission College Boulevard approximately 400 feet east of the project site. The San Jose International Airport is located approximately 1.6 miles (as the crow flies) east of the project site and has two runways that exceed 3,200 feet in length (AirNav 2020).

Regulatory Background

Federal

Title 14, Part 77.9 of the Code of Federal Regulations requires Federal Aviation Administration (FAA) notification for any construction or alteration within 20,000 feet of an airport with a runway more than 3,200 feet in length if the height of the construction or alteration exceeds a slope of 100 to 1 extending outward and upward from the nearest point of the nearest runway of the airport. The threshold for the FAA notification 100 to 1 surface exceedance height is approximately 112 feet for the project site. If a project's height, including temporary equipment (such as cranes used during construction) or any ancillary structures (such as transmission poles), exceeds the 100 to 1 surface, the project applicant must submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA.

State

Project construction activities that require movement of oversized or excessive load vehicles on state roadways require a transportation permit issued by the California Department of Transportation (Caltrans). Caltrans may also require the applicant to prepare a Transportation Management Plan prior to construction to reduce effects on the state transportation network (Caltrans 2019).

Local

Santa Clara County Airport Land Use Commission's Comprehensive Land Use Plan for Norman Y. Mineta San Jose International Airport. Figure 6 of the Santa Clara County Airport Land Use Commission's Comprehensive Land Use Plan (CLUP) identifies the Federal Aviation Regulations (FAR) Part 77 surfaces above the project site. FAR Part 77 surfaces are those identified by the FAA as obstruction surfaces around an airport. Exceedance of these surfaces could result in obstruction of airspace and hazards to aircraft entering or exiting the San Jose International Airport. At the project site, the lowest and most restrictive FAR Part 77 surface shown on Figure 6 is at 162 feet above mean sea level (AMSL) (Santa Clara County 2016).

City of Santa Clara 2010-2035 General Plan. The City of Santa Clara 2010-2035 General Plan includes several goals and policies related to the project, including:

5.8.2-P9 Require all new development to provide streets and sidewalks that meet City goals and standards, including new development in employment areas.

5.8.4-P8 Require new development and public facilities to provide improvements, such as sidewalks, landscaping and bicycling facilities, to promote pedestrian and bicycle use.

5.8.5-G1 Transportation demand management programs for all new development in order to decrease vehicle miles traveled and single occupant vehicle use.

5.8.5-G2 Transportation demand management programs that promote an increase in vehicle occupancy and a decrease in vehicle trips during commute hours.

5.17.2 Applicant Proposed Measures

None.

5.17.3 Environmental Impacts and Mitigation Measures

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Construction

Less Than Significant Impact. Project construction would not significantly obstruct any transit, roadway, bicycle, or pedestrian facilities in the area. The project would utilize existing connections to connect to the City's storm water, electric, telecommunications, and waste systems. No relocation of existing or construction of new facilities for these systems are needed to serve the project (Mission College 2019a, pgs. 184-185). Construction activities would occur mostly on site, with possible exceptions of the modifications of project access driveways on Mission College Boulevard and Agnew Road, improvements to the sidewalk along the project's frontage on Mission College Boulevard, and the addition of a sidewalk along the project's frontage on Agnew Road.

Primary access to the site would be from Mission College Boulevard. The project construction would remove three of the four existing driveways along the project site's southern frontage on Mission College Boulevard. 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 Blvd. One of the driveway entrances that would be closed is the northern leg of the four way signalized intersection at the intersection of Mission College Boulevard and Juliette Lane. The City of Santa Clara, as the permitting agency, would ensure that the applicant obtains the proper permits for these activities to minimize disturbances to roadway activities.

There is a sidewalk and Class II bike lane on Mission College Boulevard and the access modifications may temporarily affect the bicycle facilities and pedestrian circulation along the project site's frontage. Sidewalk improvements would be made to the existing sidewalk along the Mission College Boulevard frontage and require a temporary sidewalk closure by segment. Additionally, the construction of the sidewalk

improvements may involve the temporary relocation of the bus stop located along the project site's frontage on Mission College Blvd (Mission College 2020a). The City of Santa Clara, as the permitting agency, would ensure that the applicant obtains the proper permits for these activities to minimize disturbance to transit and pedestrian circulation.

The two existing entrances on Agnew Road would be closed and replaced with two secondary driveways; a 30-foot wide entrance would be constructed for emergency access and a 21-foot wide entrance would be constructed to access the substation. There are no existing sidewalks along the project site's northern frontage on Agnew Road (Mission College 2019a). Therefore, modifications to the site access on Agnew Road would not conflict with pedestrian circulation. The modifications would not affect transit as there are no bus stops along the project site's frontage on Agnew Road. There are Class II bike lanes along the project frontage on Agnew Road and the modifications could temporarily affect the bicycle facilities along the project site's frontage. The project would also install a sidewalk along the project site's frontage on Agnew Road, which may also affect bike facilities. The City of Santa Clara, as the permitting agency, would ensure that the applicant obtains the proper permits for these activities to minimize disturbance to roadway activities.

Construction would not significantly block access to any roadways. Construction would affect the existing pedestrian, bicycle, and transit facilities along the Mission College Boulevard frontage, and the existing bicycle facilities along Agnew Road, but it would be temporary and short term. With adherence to city permits, project construction would not conflict with any program, plan, ordinance, or policy addressing the circulation system, and therefore impacts would be less than significant.

Furthermore, to ensure that significant disruption to roadway circulation would not occur during construction, the City of Santa Clara, as the permitting agency, would require the applicant to obtain all required permits from Caltrans for the movement of oversized or excessive load vehicles on state roadways, and to submit to Caltrans a Transportation Management Plan, if required for the project, prior to construction to reduce effects on the state transportation network.

Operation and Maintenance

No Impact. Operation of the project would occur fully onsite and would not obstruct any transit, roadway, bicycle, or pedestrian facilities. Additionally, the project would not interfere with any future pedestrian, bike, or transit plans for the area. The project would be consistent with General Plan policies 5.8.2-P9 and 5.8.4-P8 (discussed under the "Regulatory Background" heading of this section), which require new development to provide improvements such as sidewalks, as the project would involve construction of a new sidewalk along its Agnew Road frontage and improvements to sidewalk along its Mission College Boulevard frontage. Thus, the project would help implement pedestrian plans. Operation of the project would not conflict with any program, plan,

ordinance, or policy addressing the circulation system, and would therefore have no impact.

Required Mitigation Measures: None.

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Construction

Less Than Significant Impact. CEQA Guidelines section 15064.3, subdivision (b), states that generally vehicle miles travelled (VMT) is the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. Increased VMT exceeding an applicable threshold could constitute a significant impact. If existing models or methods are not available to estimate the VMT for the particular project being considered, a lead agency may analyze the project's VMT qualitatively, evaluating factors such as the availability of transit or proximity to other destinations. For construction traffic, a qualitative analysis of VMT impacts (instead of a more detailed quantitative analysis) is often appropriate (CANRA 2018; see also CEQA Guidelines section 15064.3, subdivision (b)(3)).

Project construction would involve a temporary increase in vehicle trips resulting from workers commuting to the project site, and delivery and truck haul trips of project materials. The 25-month construction period would generate 305 one-way worker trips and 50 one-way delivery and truck haul trips on average per day. Construction workers would be from the greater Bay Area and would not be traveling long distances (Mission College 2019a). Estimated average one-way trip lengths are 10.8 miles for construction workers, 7.3 miles for vendor (delivery) trips, and 20 miles for truck haul trips (Mission College 2020a).

Project-related construction traffic would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) because construction generated traffic would be temporary and workers would commute from the greater Bay Area, minimizing VMT impacts. Therefore, VMT impacts from project construction would be less than significant.

Operation and Maintenance

Less Than Significant Impact. Operation trips would be generated by: the 57 daily employees (30 full time employees and 27 part time employees) who would travel to and from the project site; approximately five visitors per day to the project site; periodic trips by a tanker truck to supply diesel fuel for the backup generators on an as-needed basis; and delivery and trash-hauling trucks. Based on the estimated number of daily employees and visitors, the project would generate approximately 124 daily vehicle trips (Mission College 2019a). Estimated average one-way trip lengths for operational employees are 9.5 miles, and 7.3 miles for commercial

vehicles, including customers and deliveries (Mission College 2020a). Based on the limited number of employees and visitors, operation of the project would require relatively few VMT and would not significantly increase the VMT in the project area.

The project would not be growth-inducing. The project site was previously developed with a two-story office/R&D building and an onsite workforce. Operation of the data center would require fewer employees and have less visitors than the previous use, therefore, the project would generate fewer daily vehicle trips than the previous use. The project's estimated 124 daily vehicle trips does not account for the elimination of existing vehicle trips associated with the office/R&D building. Using the Institute of Transportation Engineers (ITE) Trip Generation rates, the existing building on the project site would generate approximately 3,487 daily trips (Mission College 2019a, pg. 175). Furthermore, the project's operation workers would be from the greater Bay Area and local workers would be using the regional transportation network regardless of the project's approval.

The project includes construction of a sidewalk along the Agnew Road frontage and improvements to the sidewalk along the Mission College Boulevard frontage. The availability of transit, bicycle, and pedestrian infrastructure in the project area would help to reduce VMT associated with employees and visitors traveling to the project site. Furthermore, the City of Santa Clara, as the permitting agency, would require the applicant to prepare and implement a Transportation Demand Management Program for the project to reduce VMT. This is consistent with General Plan goals 5.8.5-G1 and 5.8.5-G2 (discussed under the "Regulatory Background" heading of this section). For all these reasons, the project would not conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). VMT generated by the project operation would be a less than significant impact.

Required Mitigation Measures: None.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction

Less Than Significant Impact. Construction activities would occur mostly on site and not in the public right-of-way, with possible exceptions of the modifications of project access driveways, the addition of a sidewalk along the Agnew Road frontage, and modifications to the sidewalk on Mission College Boulevard frontage. The modification of the driveway entrance on Mission College Boulevard would change the signal configuration of the traffic light on Mission College Boulevard and Juliette Lane. The project construction would not alter the shape of the road, nor create any sharp turns or dangerous intersections.

Construction of the project would remove three of the four existing driveways on the project site southern frontage along Mission College Boulevard and would make improvements to the sidewalk along Mission College Boulevard. The project would replace the two existing driveways on the project site's northern frontage along Agnew Road and install a new sidewalk along Agnew Road. One of the driveway entrances that would be closed is at the intersection of Mission College Boulevard and Juliette Lane. The driveway is the northern leg of the four way signalized intersection and its closure would alter the existing intersection configuration. The City of Santa Clara, as the permitting agency, would ensure that the applicant obtains the proper permits for these activities, including encroachment permits, to minimize any hazards resulting from construction equipment or activities. The City of Santa Clara would also require the applicant to prepare a Traffic Control Plan to ensure localized traffic control around the project site during deliveries and construction activities that could cause hazards by obstructing roadways. Furthermore, the City of Santa Clara, as the permitting agency, would require the applicant to obtain all the required permits from Caltrans for the movement of oversized or excessive load vehicles on state roadways, and to submit to Caltrans a Transportation Management Plan, if required for the project, prior to construction. These actions would reduce any hazards from transportation of materials to and from the site and from construction activities affecting roadways. For these reasons, project construction would not substantially increase hazards due to a geometric design feature or incompatible uses; therefore, the impact would be less than significant.

Operation and Maintenance

Less Than Significant Impact. The project site is located approximately 1.6 miles northwest of the Norman Y. Mineta San Jose International Airport. Tall structures can potentially pose a hazard to occupants of aircraft, depending on the heights of structures and their proximity to air traffic. The highest point of the proposed project, the penthouses, would be 108 feet, 3 inches above ground level (AGL). The elevation of the project site is 27.5 feet. Figure 6 in the Santa Clara County Airport Land Use Commission's CLUP for the San Jose International Airport identifies the lowest and most restrictive FAR Part 77 obstruction surface as 162 feet above mean sea level (AMSL) at the project site (Santa Clara County 2016). The Mission College Data Center, at a maximum structure height of 108 feet, 3 inches AGL, or approximately 135 feet, 9 inches AMSL, would not exceed the FAA's obstruction surface of 162 feet AMSL.

Title 14, Part 77.9 of the Code of Federal Regulations, Construction or Alteration Requiring Notice requires FAA notification if the project would exceed the 100 to 1 surface threshold of approximately 112 feet at the project site. With a maximum height of 108 feet, 3 inches AGL, the project would not exceed the FAA notification 100 to 1 surface threshold of approximately 112 feet at the project site. To confirm the project would not pose a hazard to air traffic, the applicant submitted its Form 7460-1 dated January 30, 2020 to the FAA. The FAA issuance of "determination of no

hazard" and compliance with any conditions of such determinations, would reduce potential air safety hazards to a level of less than significant. The City of Santa Clara, as the permitting agency for this project, would ensure compliance with the FAA's determination.

The project site is located outside all Airport Safety Zones. The project site is located within the Airport Influence Area, which is a composite of the areas surrounding the airport that are affected by noise, height, and safety considerations (Santa Clara County 2016, pg. 3-17).

The project's backup generators would discharge thermal plumes, high-velocity columns of hot air, during operation. Thermal plume velocities would be greatest at the discharge points, with plume velocities decreasing with increasing altitude. Plume velocities would also be highest during certain weather conditions, such as cool temperatures and calm winds. High velocity thermal plumes have the potential to affect aviation safety, and the FAA Aeronautical Information Manual identifies thermal plumes as potential flight hazards (FAA 2019). Aircraft flying through thermal plumes may experience significant air disturbances, such as turbulence and vertical shear. The FAA manual advises that, when able, a pilot should fly upwind of smokestacks and cooling towers to avoid encountering thermal plumes.

Staff uses a peak vertical plume velocity of 10.6 meters per second (m/s) (5.3 m/s average plume velocity) as a screening threshold for potential impacts to aviation. Based on a literature search, this velocity generally defines the point at which aircraft begin to experience severe turbulence.

The applicant modeled the plume velocity of the project's backup generators and up-blast fans to determine whether the project's thermal plumes would exceed 10.6 m/s at altitudes where aircraft would fly. The applicant's analysis was independently reviewed and accepted by the Energy Commission Air Quality staff. Staff calculated that under worst-case weather conditions and calculation methods, the vertical velocity of the plumes from the backup generators would reach or exceed 10.6 m/s at the point of exit from the stack and would not drop below 10.6 m/s, until an altitude of 97 feet AGL. The vertical velocity of the plumes from the chillers would reach or exceed 10.6 m/s at the point of exit from the equipment and would not drop below 10.6 m/s, until an altitude of 170 feet AGL. (Mission College 2020a)

Considering the elevation of the project site is 27.5 feet AMSL, the up-blast fans would produce a worst-case plume reaching hazardous velocities of 10.6 m/s up to altitudes of 197.5 feet AMSL over the project site. This would encroach into FAA obstruction surface (shown in Figure 6 of the CLUP), which starts at 162 AMSL over the project site. However, this worst-case scenario plume would only happen infrequently during worst-case weather conditions and aircraft are unlikely to be flying so low over the project site. The traffic pattern at the San Jose International Airport is much higher than 197.5 feet AMSL (942 feet AGL for single-engine aircraft and 1,442 feet AGL for

multi-engine and turbine powered aircraft) making it unlikely that aircraft would be flying at low altitudes over the project site (AirNav 2020). It should also be noted that while the FAA regulates the heights of physical structures, it does not regulate plumes.

As discussed above, the project would not result in hazards to aircraft from either a geometric design feature, such as structure height, or incompatible uses, including thermal plumes. The project would not increase any other hazards. For these reasons, impacts would be less than significant.

Required Mitigation Measures: None.

d. Would the project result in inadequate emergency access?

Construction, Operation and Maintenance

Less Than Significant Impact. Emergency access to the site would be provided by the driveway on Mission College Boulevard and western driveway on Agnew Road. The driveways would 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) (Santa Clara 2019, § 18.74.050). The driveway along Mission College Boulevard would be 50 feet wide and the driveway along Agnew Road would be 30 feet wide. The final site design would be required to be consistent with regulatory requirements for fire truck access (Mission College 2019a, pg. 177). Additionally, the project would not physically block any access roads or result in traffic congestion that could significantly compromise timely access to this facility or any other location during construction, operation and maintenance. Therefore, the impact would be less than significant.

Required Mitigation Measures: None.

5.17.4 References

AirNav 2020 - AirNav. KSJC Norman Y Mineta San Jose International Airport. Accessed on: February 2020. Available online at: https://www.airnav.com/airport/KSJC

Caltrans 2019 - California Department of Transportation (Caltrans). Comments on the Laurelwood Initial Study (19-SPPE-01, TN 229939), dated October 1, 2019. Accessed on: February 2020. Available online at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=229939&DocumentContentId=61416

CANRA 2018 - California Natural Resources Agency (CANRA). CEQA: The California Environmental Quality Act, 2018 Amendments and Additions to the State CEQA Guidelines, Final Adopted Text. Accessed on: February 2020. Available online at: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

FAA 2019 - Federal Aviation Administration (FAA). Aeronautical Information Manual, Chapter 7. Safety of Flight, Section 5: Potential Flight Hazards, Subsection 7-5-15: Avoid Flight in the Vicinity of Exhaust Plumes (Smoke Stacks and Cooling Towers), August 15, 2019, Accessed on: February 2020. https://www.faa.gov/air_traffic/publications/media/aim_basic_8-15-19.pdf

Mission College 2019a **-** Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Mission College 2020a - Response to CEC staff data request set 1 (1-59), Mission College Backup Generating Facility (19-SPPE-05), February 2020 (TN 231960 and 232047). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Santa Clara 2010 - City of Santa Clara (Santa Clara). 2010-2035 General Plan. Adopted November 16, 2010. Accessed on: February 2020. Available online at: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan

Santa Clara 2019 - City of Santa Clara (Santa Clara) Santa Clara City Code. Current through Ordinance 2006, passed October 8, 2019. Accessed on: February 2020. Available online at: https://www.codepublishing.com/CA/SantaClara

Santa Clara County 2016 - Santa Clara County Airport Land Use Commission (Santa Clara County). Norman Y. Mineta San Jose International Airport Comprehensive Land Use Plan for Santa Clara County. Accessed on: February 2020. Available online at: https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_SJC_CLUP.pdf

VTA 2016 - Santa Clara Valley Transportation Authority (VTA), Santa Clara Valley Bikeways Map (Countywide Bikeways Map), dated April 2016, current effective December 28, 2019. Accessed on: February 2020. Available online at: http://www.vta.org/go/maps

VTA 2019 - Santa Clara Valley Transportation Authority (VTA), VTA's New Service System Map (Bus and Rail) – VTA Transit Map, dated December 28, 2019. Accessed on: February 2020. Available online at: http://www.vta.org/go/maps

5.18 Utilities and Service Systems

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to utilities and service systems.

UTILITIES AND SERVICE SYSTEMS Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

5.18.1 Setting

Potable Water Supply

The project would be supplied with potable water provided by the city of Santa Clara. The potable water system gets water from three sources: Santa Clara Valley Water District (SCVWD), the San Francisco Public Utilities Commission (SFPUC), and 26 groundwater wells operated by the city's Water and Sewer Utility. The project is located in the northern part of the city, which is served with water from SFPUC. In 2015, about one third of the city's potable water came from the imported treated water supplies (SCVWD and SFPUC) and groundwater made up approximately two thirds of the city's potable water supply. The water system in the city consists of more than 335 miles of distribution mains, the 26 groundwater wells, and seven storage tanks with a total capacity of approximately 28.8 million gallons. According to the city's 2015 Urban Water Management Plan (UWMP), which was approved

and adopted by the Santa Clara City Council on November 22, 2016, the citywide demand for potable water in 2015 was 17,620 acre-feet (AF) (Santa Clara 2016).

Recycled Water Supply

Recycled water is supplied to the city of Santa Clara through the South Bay Water Recycling (SBWR) program. The SBWR obtains advanced tertiary treated water from the San Jose-Santa Clara Regional Wastewater Facility (RWF), formerly known as the San Jose/Santa Clara Water Pollution Control Plant. In 2015, RWF treated 14,770 AF of wastewater, of which 3,529 AF was treated to Title 22 recycled water standards for use by the city of Santa Clara, and the remaining 11,241 AF of treated wastewater was discharged to San Francisco Bay (Santa Clara 2016). The recycled water purchased from the SBWR made up approximately 17 percent of the overall water use in the city. The city of Santa Clara uses recycled water for the non-potable needs of businesses, industries, parks, and schools located along pipeline routes. The state of California Water Code sections 13550 and 13551 include strong language prohibiting the use of potable water where recycled water can be used, such as cooling, if recycled water is available and economically feasible. The Santa Clara City Code also has similar requirements. A recycled water connection that can serve the proposed project is located about a quarter-mile away from the project site (Mission College 2019a).

Wastewater Service

The city of Santa Clara's Departments of Public Works and Water and Sewer Utilities are responsible for the wastewater collection system within the city. Wastewater is collected by sewer systems in Santa Clara and is conveyed by pipelines to the San Jose-Santa Clara RWF. The RWF is owned jointly by the cities of San Jose and Santa Clara and is operated by the city of San Jose's Department of Environmental Services. The RWF has a capacity to treat 167 million gallons per day (mgd) of wastewater and currently treats an average of 110 mgd, thus the RWF facility has 57 mgd, or 35 percent of available capacity. Approximately 13 percent of the RWF's effluent undergoes advanced tertiary treatment to meet Title 22 recycled water standards, after which it flows to SBWR's adjacent pump station to be distributed to several customers in the city. The remaining effluent flows into San Francisco Bay. The RWF's current Wastewater Discharge Requirements (WDRs) were issued by the San Francisco Regional Water Quality Control Board (RWQCB) in September of 2014.

Storm Sewer Service

The city of Santa Clara owns and maintains the municipal storm drainage system in the vicinity of the project site. The project site drains by a combination of surface flow and underground pipes towards the city's storm water system located in Juliette Lane (Mission College 2019a), which discharges to San Tomas Aquino Creek and ultimately the San Francisco Bay (Santa Clara 2016).

Solid Waste

Solid waste and recycling collection for businesses at commercial and institutional properties in the city of Santa Clara is provided by Mission Trail Waste Systems through a contract with

the city. Newby Island Landfill, located in San Jose, provides disposal capacity to nearby cities, including San Jose, Milpitas, Santa Clara, Cupertino, Los Altos, and Los Altos Hills. According to the city's General Plan, the city of Santa Clara has an arrangement with the owners of the Newby Island Landfill, as well as other landfills located outside of the county, to provide disposal capacity for the city. The Newby Island Landfill is permitted to accept a maximum of 3,260 tons of solid waste per day and has an available disposal capacity of 21.2 million cubic yards.

The Santa Clara County Integrated Waste Management Plan estimates that there is adequate waste capacity through its planning horizon of 2024. According to the City of Santa Clara General Plan, the life of the Newby Island Landfill could be prolonged as a result of the increases in recycling and reduction in waste generation measures being implemented by the landfill. Also, the landfill has been evaluating an expansion plan. If the landfill cannot operate beyond 2024 for any reason, the city is planning to use property it owns outside its jurisdictional boundaries for waste disposal purposes (Santa Clara 2014). Solid waste and recycling collection for businesses at commercial and institutional properties in the city of Santa Clara is provided by Mission Trail Waste Systems through a contract with the city.

Electric Power, Natural Gas, and Telecommunications

Electricity needed for project operation would be provided by SVP. Telecommunication services would be provided by one of several fiber optics providers in the project area, such as CenturyLink, Zayo, AT&T, and others. The applicant anticipates that telecommunication services would be provided to the facility via established rights of way, as is the industry's common practice. The project would use a small amount of natural gas for the building's daily operations such as water heating. Natural gas would be provided by Pacific Gas and Electric (PG&E) who has adequate supplies for the project's demand.

Regulatory Background

Federal

Federal Clean Water Act. The State Water Resources Control Board (SWRCB) and its nine RWQCBs are responsible for the regulation and enforcement of the water quality protection requirements of the federal Clean Water Act (CWA) and the state's Porter-Cologne Water Quality Control Act (Porter-Cologne). The National Pollutant Discharge Elimination System (NPDES) is the permitting program that allows point source dischargers to comply with the CWA and Porter-Cologne laws. This regulatory framework protects the beneficial uses of the state's surface and groundwater resources for public benefit and environmental protection. Protection of water quality could be achieved by the proposed project by complying with applicable NPDES permits from the SWRCB or the San Francisco Bay RWQCB. The RWF complies with the Clean Water Act through its current NPDES WDRs, which were issued by the San Francisco RWQCB September of 2014.

State

California Water Code, Sections 10910-10915. California Water Code (Sections 10910-10915) requires water service providers to evaluate stresses to the water supply service system caused by proposed project developments. The code sections require public water systems to prepare water supply assessments (WSA) for certain defined development projects subject to the California Environmental Quality Act (CEQA).

According to Section 10912, if a "Project" meets any of the following criteria, then a detailed WSA would be required to be prepared by the water supplier:

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

Further guidance for how to interpret these sections of the Water Code is provided in a California Department of Water Resources document titled "Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001" (Guidebook) (DWR 2003). A helpful interpretive section on page 3 of the Guidebook explains how to interpret item (1) above. It states that one dwelling unit typically consumes 0.3 to 0.5 AF of water per year (DWR 2003). Therefore 500 dwelling units could be interpreted to mean 150 to 250 acre-feet per year (AFY) of potable water.

The Guidebook also provides guidance about how to interpret other items in the list, but the one central theme is that WSAs are necessary for projects that increase the demand on the local system substantially. The Guidebook also emphasizes that WSAs are necessary in areas with a poorly understood water supply, or in an area where the project would increase the demand substantially, or 10-percent (DWR 2003).

The project would be located in a very well-studied service area with many service connections. The total floor area is less than 650,000 square feet, which is the floor plan area criterion for an industrial facility for the purpose of a WSA to be required. Also, the project's demand of 24.4 AFY is much less than the amount needed for 500 dwelling units. Therefore, the project does not meet the criteria for a business operation to require a WSA to be prepared by the water supplier. However, the city had prepared a WSA that was included in the MND prepared and approved by the city for the MCBDC since the demand

for that project would have been large enough to necessitate a WSA to be prepared. The WSA for the approved MCBDC concluded that the city would have sufficient supplies to meet that project's demand of 228.4 AFY, almost ten times that of the proposed project.

California Energy Efficiency Standards for Residential and Nonresidential Buildings—Green Building Code (2011), Title 24 Update (2014). The California Green Buildings Standards Code applies to planning, design, operation, construction, use, and occupancy of newly constructed buildings and requires installation of energy- and water-efficient indoor infrastructure. The related waste management plan is required to allow for diversion of 50 percent of the generated waste away from the landfill.

Integrated Waste Management Act. The Integrated Waste Management Act of 1989 requires cities and counties to reduce, by 50 percent, the amount of solid waste disposed of in landfills by the year 2000 and beyond. To comply with the Integrated Waste Management Act, counties adopt regulations and policies to fulfill the requirements of the Act.

Local

City of Santa Clara General Plan. The Santa Clara General Plan includes numerous policies related to utilities and service systems. With respect to waste, General Plan Policy 5.10.1-P8 aims to increase reduction for solid waste tonnage to 80 percent by 2020, or as consistent with the Climate Action Plan, Plan 2014 (Santa Clara 2016).

Santa Clara City Code. According to Santa Clara City Code Section 8.25.285, applicants seeking building or demolition permits for projects greater than 5,000 square feet are required to recycle at least 50 percent of its discards (Santa Clara 2014).

5.18.2 Applicant Proposed Measures

None.

5.18.3 Environmental Impacts and Mitigation Measures

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Construction, Operation and Maintenance

Less Than Significant Impact. The project's wastewater flow during construction and operation would be treated by the RWF, which is monitored by the San Francisco Bay RWQCB to ensure compliance with the facility's NPDES wastewater discharge permit. The RWF is permitted to treat the industrial and sanitary waste flows that would be generated by the project. Furthermore, as discussed below, the RWF has sufficient available capacity to accommodate the project's estimated wastewater flow. Therefore,

the project would not cause the RWF to exceed its wastewater treatment requirements of the San Francisco Bay RWQCB for project construction and operation. The impact of the project on wastewater treatment capacity would be less than significant.

Electric demand for construction and operation of the proposed project would be provided by the SVP. The SVP electrical resources available are reliable. SVP and its suppliers have sufficient energy to serve the expected future demand of the project. Project electric demand during construction and operation would not be substantial and would not be expected to affect existing users. Construction and operation of the project would not require new or expanded electric power utilities. Therefore, potential impacts would be less than significant.

No information was provided by the project applicant on the amount or rate of natural gas consumption by the project for construction or during operation. Typical data centers don't use significant amounts of natural gas. The proposed project would use small amounts of natural gas during construction and operation. PG&E owns natural gas distribution facilities within the city of Santa Clara. The proposed project would incrementally increase natural gas use, but would not require the construction of any additional off-site facilities. PG&E has sufficient supplies to meet the proposed project demand. The MCDC would not require the construction of any additional off-site facilities. Therefore, the impact of the proposed project on natural gas supplies would be less than significant.

For telecommunication services for the proposed project would be provided by providers that have been serving the existing business, who have adequate available capacity to accommodate the project needs during construction and operation. The impact of the project on telecommunication services would be less than significant.

Required Mitigation Measures: None.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Construction, Operation and Maintenance

Less Than Significant Impact. The water system in the city is operated and maintained by the city's Water and Sewer Utility. This system is supplied with potable water from three sources: SCVWD, SFPUC, and 26 groundwater wells operated by the city's Water and Sewer Utility. The proposed project is located in an area served primarily with surface water from SFPUC. In 2015, about one third of the city's potable water came from the imported treated water supplies (SCVWD and SFPUC); the other two thirds came from groundwater. The water system in the city consists of more than 335 miles of distribution mains, the 26 groundwater wells discussed above, and seven storage tanks with approximately 28.8 million gallons of capacity. According to the 2015 UWMP, the citywide demand for potable water in 2015 was 17,620 acre-feet (Santa Clara 2016).

The UWMP also concludes that the City is expected to meet projected future demands ranging from approximately 28,000 AFY in 2020 and gradually increasing to approximately 34,000 AFY in 2040.

Total water demand associated with grading and construction for both Phase I and II would be approximately 2.5 AF (Mission College 2019a). The annual demand of the proposed project once operational would be 24.4 AFY. This is about twice as much as the historic demand of 12 AFY for the prior industrial activity at the project site (Santa Clara 2018 – Appendix G).

The proposed project does not meet the requirements for a WSA to be prepared by the water purveyor. However, the WSA prepared by the city for the previously approved data center project at the same site identified a demand of 228.4 AFY, almost ten times that of the proposed project. That WSA concluded that the city would have sufficient supplies to meet that project's demand and that the demand would have been consistent with growth projections and future water demand assumed in the preparation and analysis of the city's 2015 Urban Water Management Plan (UWMP) (Santa Clara 2018).

Additionally, the applicant has indicated that the project would use recycled water for industrial uses, which constitutes the majority of project's demand. Since the city has access to recycled water from the RWF and a recycled water line is located in the vicinity of the MCDC project, the project would be served with recycled water for industrial uses. This would constitute an additional saving in potable water that would be available for other beneficial uses. Impacts to the local water supply for project construction and operation would therefore be less than significant.

Required Mitigation Measures: None.

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

Construction, Operation and Maintenance

Less Than Significant Impact. The RWF treats an average of 110 mgd of wastewater, which is 57 mgd less than its 167 mgd treatment capacity. The project would generate a maximum of 400,000 gallons per day, or 0.4 mgd, which is less than 1.0 percent of the available treatment capacity of the RWF. Implementation of the proposed project would not result in an increase in the RWF's need for wastewater treatment beyond its design capacity. Therefore, the RWF has the ability to treat wastewater generated by the project and the impact on wastewater treatment facilities would be less than significant.

The majority of the project site is currently covered with impervious surfaces. Compared to existing conditions at the project site, the proposed project would reduce the amount

of impervious areas at the site, which would result in more storm water infiltration and thus a reduction in storm water runoff. The proposed project would also include a storm water collection system that includes storm water biotreatment areas, which improve the quality of the discharged storm water (by controlling sedimentation) and also would result in a reduction in the overall runoff into the city's collection system. In addition, the project would have to comply with the city's municipal storm water permit, which would further reduce the likelihood of the project causing an increase in storm water discharge from the site. The impact from the project on the storm water system capacity would be less than significant.

Required Mitigation Measures: None.

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Construction, Operation and Maintenance

Less Than Significant Impact. Construction activities for the project would result in a temporary increase in solid wastes. Operations would result in long-term generation of a small amount of solid waste. The majority of the solid waste would be classified as nonhazardous, while a small fraction would be classified as hazardous. Hazardous waste would be handled by licensed services and disposed of at available facilities licensed to accept such waste. Nonhazardous solid waste would be disposed of at the Newby Island Landfill in San Jose. Demolition and construction activities would result in minor amounts of solid wastes. The proposed project would result in fewer employees and visitors on the site compared to the existing office/Research and Development use (Santa Clara 2018).

The project, therefore, would not increase solid waste generation and could be accommodated by existing solid waste facilities. The Newby Island Landfill has a remaining capacity of 21.2 million cubic yards and would provide adequate disposal space for the solid waste associated with the project's construction, and for operations through 2024. According to the City of Santa Clara General Plan, the life of the Newby Island Landfill could be prolonged as a result of the increases in recycling and reduction in waste generation measures being implemented by the city. Also, the landfill has been evaluating an expansion plan. If the landfill cannot operate beyond 2024 for any reason, the city is planning to use property it owns outside its jurisdictional boundaries for waste disposal purposes (Santa Clara 2014). Therefore, the impact resulting from construction and operation of the proposed project on landfill capacity would be less than significant.

Required Mitigation Measures: None.

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

Construction, Operation and Maintenance

Less Than Significant Impact. The California Integrated Waste Management Act of 1989 (Assembly Bill 939) requires local jurisdictions in California to reduce, by 50 percent, the amount of solid waste disposed of in landfills by the year 2000 and beyond. During construction, the project would collect and haul construction debris off-site for recycling or disposal in local jurisdictions that comply with this state requirement and have programs in place to ensure that disposal of solid waste meets these requirements. The project would comply with these requirements pursuant to city requirements. The project would not result in an impact on solid waste collection and would comply with management and reduction regulations (Mission College 2019a). Typically, data centers do not generate special or unique wastes. Similarly, the MCDC would not generate any special or unique wastes that would make the project not comply with federal, state, and local statutes or solid waste management and reduction regulations. Management of hazardous waste and applicable federal regulations are discussed in **Section 5.9 Hazards and Hazardous Materials**.

During operation, the project would comply with federal, state, and local statutes and regulations related to solid waste. There would be no change in compliance with federal, state, or local statutes and regulations related to solid waste management and reduction. No impact would occur.

Required Mitigation Measures: None.

5.18.4 References

DWR 2003 - Department of Water Resources (DWR). Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. California Department of Water Resources. October 8, 2003.

Mission College 2019a - Application for Small Power Plant Exemption: Mission College Data Center, dated November 2019. (TN 230848). Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-05

Santa Clara 2014 - City of Santa Clara 2010-2035 General Plan. Approved by City Council November 16, 2010 and updated December 9, 2014. Accessed: February 14, 2020. Available at: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan

Santa Clara 2016 - City of Santa Clara 2015 Urban Water Management Plan. Prepared by the City of Santa Clara Water and Sewer Utilities. Adopted November 22, 2016. Accessed: February 14, 2020. Available online at: https://www.santaclaraca.gov/our-city/departments-g-z/water-sewer-utilities/water-utility/urban-water-management-plan

Santa Clara 2018 - City of Santa Clara (Santa Clara). Initial Study for the 2305 Mission College Boulevard Data Center Project. March 2018. Accessed on: February 10, 2020. Available online at: http://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/221/3649

5.19 Wildfire

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project with respect to wildfires.

WILDFIRE If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Environmental criteria established by CEQA Guidelines, Appendix G.

5.19.1 Setting

Wildfire Hazards

The Department of Forestry and Fire Protection (Cal Fire) identifies and maps areas of significant fire hazards based on fuels, terrain, and other relevant factors. These maps categorize this information by Fire Hazard Severity Zones (FHSZ), grouped into unzoned, moderate, high, and very high zones. State Responsibility Areas (SRA) are locations where the state of California is responsible for wildfire protection and Local Responsibility Areas are locations where the responding agency is the county or city.

The California Public Utilities Commission (CPUC) categorizes fire threat areas as Zone 1, Tier 2, or Tier 3. Zone 1 encompasses High Hazard Zones (HHZ) on the United States Forest Service (USFS-CAL FIRE) joint map of Tree Mortality HHZ. This tier represents areas where tree mortality directly coincides with critical infrastructure such as communities, roads, and utility lines, and are a direct threat to public safety. Tier 2 consists of areas where there is an elevated risk (including likelihood and potential impacts on people and property) from wildfires associated with overhead utility power lines or overhead utility power-line facilities also supporting communication facilities. Tier 3 consists of areas where there is an extreme risk (including likelihood and potential

impacts on people and property) from wildfires associated with overhead utility power lines or overhead utility power-line facilities also supporting communication facilities.

The project site is surrounded by urban and industrial development in the city of Santa Clara and is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC. The city of Santa Clara is also not within a state of California FHSZ (Cal Fire 2020) at the wildland and urban interface and is not in the vicinity of wildlands.

Regulatory Background

Federal

No federal regulations related to wildfires apply to the project.

State

Fire Hazard Severity Zones (Pub. Resources Code, §§ 4201-4204). The purpose is to provide for the classification of lands within SRAs in accordance with the severity of fire hazard present and identify measures to be taken to retard the rate of spreading and to reduce the potential intensity of uncontrolled fires that threaten to destroy resources, life, or property.

Fire Hazard Severity (Cal. Code Regs, tit. 14, § 1280). FHSZs reflect the degree of severity of fire hazard.

CPUC General Order 95: Rules for Overhead Electric Line Construction. CPUC GO 95, Section 35, covers all aspects of design, construction, operation, and maintenance of overhead electrical lines and management of safety hazards. Its application would ensure adequate service and safety to persons engaged in the construction, maintenance, operation or use of overhead lines and to the public in general.

CPUC General Order 166: Standards for Operation, Reliability, and Safety during Emergencies and Disasters. CPUC GO 166 covers the standards which require all electric utilities to be prepared for emergencies and disasters in order to minimize damage and inconvenience to the public which may occur as a result of electric system failures, major outages or hazards posed by damage to electric distribution facilities.

Local

Santa Clara County Operational Area Hazard Mitigation Plan. The plan includes risk assessment that identifies the natural hazards and risks that can impact a community based on historical experience, estimate the potential frequency and magnitude of disasters, and assess potential losses to life and property. The plan also includes developed mitigation goals and objectives as part of a strategy for mitigating hazard-related losses.

5.19.2 Applicant Proposed Measures

None.

5.19.3 Environmental Impacts and Mitigation Measures

The project site is surrounded by urban development in the city of Santa Clara. The project is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC. The city of Santa Clara is not identified to be within a state of California FHSZ (Cal Fire 2020) at the wildland and urban interface and is not in the vicinity of wildlands.

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Construction

No Impact. During project construction, traffic levels would experience a minimal increase that is not expected to degrade traffic performance significantly. Emergency response access during construction would not be significantly impeded. The project would not involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No streets would be closed, rerouted, or substantially altered during construction.

Additionally, the project is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

Operation and Maintenance

No Impact. The project does not involve the addition of a large number of people to the local area who could increase emergency response demand during a potential evacuation. Thus, the project would not interfere with the coordination of the city's emergency operations plan at the emergency operations center or alternate emergency operations center, nor would the project interfere with any statewide emergency response, or evacuation routes or plans. Adequate emergency access to the project site and surrounding industrial area would be maintained.

Additionally, the project is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

b. Would the project 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?

Construction

No Impact. The topography of the project site is flat and the project area is highly developed with minimal open space areas, faces, or slopes. Therefore, project construction would not exacerbate wildfire risk or expose occupants to pollutant concentrations from a wildfire.

Additionally, the project is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

Operation and Maintenance

No Impact. The topography of the project site is flat and the project area is highly developed with minimal open space areas, faces, or slopes. Therefore, project operation would not exacerbate wildfire risk or expose occupants to pollutant concentrations from a wildfire.

Additionally, the project is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

c. Would the project 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?

Construction

No Impact. The project would require the installation of an onsite distribution substation. The three-bay substation would have an all-weather asphalt surface underlain by an aggregate base. The construction of the substation would not block access to any road or result in traffic congestion. Maintenance of this substation would not physically block any access roads or result in traffic congestion that could significantly compromise timely access to this facility or any other location.

Additionally, the project is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

Operation and Maintenance

No Impact. The project would not require the installation of associated infrastructure that could exacerbate fire risk or result in impacts to the environment.

Additionally, the project is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

d. Would the project 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?

Construction

No Impact. The project would not substantially alter local drainage patterns. Storm water discharge during construction would be managed according to the project's Storm Water Pollution Prevention Plan, and appropriately discharged to the city of Santa Clara's storm drain system. The project would therefore not be expected to contribute to a flooding hazard onsite or offsite.

As discussed in this section, the topography of the project site and surrounding area is relatively flat and highly developed. Therefore, the project would not be exposed to post-fire slope instability or drainage changes.

For further discussion of the potential flooding impacts that could result from the proposed project, please see the discussion in the **Hydrology and Water Quality** section of this initial study.

Additionally, the project is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

Operation and Maintenance

No Impact. Operation of the project would not alter the course of a drainage (stream or river) and would not substantially alter local drainage patterns. The proposed onsite storm drainage system would be designed to meet the city's storm water drainage standards and sized adequately to convey water away from the site and to the city of Santa Clara's storm drain system. The project would therefore not contribute to a flooding hazard onsite or offsite.

As discussed in this section, the topography of the project site and surrounding area is relatively flat and highly developed. Therefore, the project would not be exposed to post-fire slope instability or drainage changes.

Additionally, the project is not located in or near a SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

5.19.4 References

CALFIRE 2020 – *Santa Clara County FHSZ Map in Local Responsibility Area*. Accessed February 10, 2020. Accessed at https://osfm.fire.ca.gov/media/6766/fhszs_map43.pdf

Section 5.20 Mandatory Findings of Significance

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

a. 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 an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation Incorporated.

Biological Resources. With mitigation the project would not substantially degrade the quality of the environment, reduce the existing habitat of any fish or wildlife species, cause any fish or wildlife population to drop below self-sustaining levels, threaten to eliminate any plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

The project site and surrounding properties are highly developed with office and industrial buildings. The potential to degrade environmental quality is minimal, as the

main project site and surrounding properties do not support natural vegetation or features that would entice wildlife foraging or occupancy. A review of the California Natural Diversity Database (CNDDB) and the Santa Clara Valley Habitat Conservation Plan (SCVHCP) indicated that Western burrowing owl, a California species of special concern, could occur on the project site due to its location within 1.5 miles of known, active breeding colonies. Required mitigation measures to buffer and protect nesting birds and Western burrowing owl would ensure the project impacts on migratory or resident birds protected by the Migratory Bird Treaty Act (MBTA) and the Fish and Game Code would be less than significant.

Section 5.4 Biological Resources of this Initial Study identifies the following mitigation measures:

- **MM BIO-1**, which requires pre-construction bird nesting surveys, including additional surveys in the event construction activities cease on the site for an extended period, and prescribes avoidance buffers for nesting birds discovered on the site; and
- **MM BIO-2**, which requires preparation of a nest survey report(s), for review and approval by the City of Santa Clara.

Implementation of these mitigation measures would further ensure that species habitats, populations, and natural communities would not be substantially reduced.

Cultural and Tribal Cultural Resources. Important examples of the major periods of California history or prehistory would be represented by historical, unique archaeological, or tribal cultural resources. None are known to be present in the project area. Nevertheless, the extent of proposed ground disturbance has the potential to damage unknown, buried archaeological resources in the project area. As described in **Section 5.5 Cultural and Tribal Cultural Resources**, the majority of archaeological resources aged about 5,000 years or older are buried beneath the ground surface. If these resources were to be exposed or destroyed, it would be a significant impact. The SPPE application, however, contains measures incorporated into the project design (PD), namely **PD CUL-1** and **PD CUL-2**, which would prevent, minimize, and compensate for inadvertent impacts to buried cultural resources. The project therefore is unlikely to eliminate important examples of major periods of California history or prehistory and would have a less than significant impact.

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant with Mitigation Incorporated. The analysis of cumulative impacts can employ one of two methods to establish the effects of other past, current, and

probable future projects. A lead agency may select a list of projects, including those outside the control of the agency, or, alternatively, a summary of projections. These projections may be from an adopted general plan or related planning document, or from a prior environmental document that has been adopted or certified, and these documents may describe or evaluate the regional or area-wide conditions contributing to the cumulative impact.

This Initial Study evaluates cumulative impacts using the City of Santa Clara 2010-2035 General Plan Integrated Final Environmental Impact Report (General Plan EIR) since the project would be consistent with applicable land use plans and policies. The General Plan EIR evaluated future development, as identified in the current General Plan, and concluded that the city's contribution to cumulative impacts would be less than significant or less than cumulatively considerable on Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use, and Public Services. Given this, and given that the project would have less than significant impacts on these resources, or impacts would be less than significant with project-specific mitigation, the project's contribution to these impacts would not be singularly or cumulatively considerable.

Additional discussion for Air Quality is provided below for informational purposes. Because mitigation measures are required due to the proposed project's impacts on biological resources and paleontological resources (Geology and Soils), additional discussion with respect to potential cumulative impacts is included below. In addition, discussion of potential cumulative impacts to tribal cultural resources is included since the city's General Plan EIR did not specifically address this subset of cultural resources.

Air Quality. The proposed project would be located in Santa Clara County in the San Francisco Bay Area Air Basin (SFBAAB), under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB exceeds health-based ambient air quality standards and is therefore designated as a nonattainment area for ozone and particulate matter with a diameter of 2.5 microns or less (called "PM2.5") under both California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The SFBAAB is also designated as a nonattainment area for particulate matter with a diameter of 10 microns or less (called "PM10") under CAAQS, but not NAAQS. SFBAAB's nonattainment status is attributed to the region's development history. Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. In developing thresholds of significance for air pollutants, BAAQMD considers the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. The California Environmental Quality Act (CEQA) would then require implementation of all feasible mitigation measures.

Construction emissions of the project would be lower than the thresholds of significance from the BAAQMD CEQA Air Quality Guidelines. There is no numerical threshold for fugitive dust generated during construction in BAAQMD. BAAQMD considers fugitive dust emissions to be potentially significant without incorporation of basic construction mitigation measures, also called best management practices (BMPs). The applicant proposes to incorporate the BAAQMD's recommended BMPs as **PD AIR-1** as a project design feature. Therefore, the project's construction emissions would not be cumulatively considerable.

The oxides of nitrogen (NOx) mass emissions from readiness testing and maintenance of the standby generators are estimated to exceed the BAAQMD significance threshold of 10 tons per year. The NOx emissions from the standby generator readiness testing and maintenance would be required to be fully offset at an offset ratio of 1.15 to 1 through the permitting process with the BAAQMD. Therefore, the project emissions during readiness testing and maintenance would not be cumulatively considerable. All other pollutants emitted during these activities would have estimated emission rates below BAAQMD significance thresholds.

Applicant and staff completed criteria pollutant air quality impact analyses of potential standby generator readiness testing and maintenance at any hour of the year. These analyses found that the concentrations from the non-concurrent, one at a time, testing of the standby engine generators (the applicant proposes to conduct routine readiness testing on only one engine at any time) did not cause any exceedance of ambient air quality standards. Therefore, the project's criteria air pollutant impacts from standby generator readiness testing and maintenance would be less than significant.

CEQA requires consideration of reasonably foreseeable impacts but allows that a lead agency may find that a particular environmental impact is too speculative for evaluation. Staff has concluded that modeling of the air quality impacts during emergency operations requires too much speculation about input variables to provide any useful information about potential impacts.

Staff also reviewed the applicant's health risk assessment (HRA) for construction and during standby generator readiness testing and maintenance. Staff extended the applicant's HRA to include existing stationary sources and roadways. Such operation is not likely to exceed BAAQMD significance thresholds for cancer and chronic long-term health risks. Even when all standby engine generators are operating concurrently for up to 50 hours per year, the acute health risks would be below BAAQMD significance thresholds. The HRA analyses show that the project would not expose sensitive receptors to substantial toxic air contaminant (TAC) concentrations.

In summary, the project's air quality impacts would not be considered cumulatively significant for either criteria pollutants or toxic air contaminants.

Biological Resources. The General Plan EIR found less than significant biological resources impacts in the event of a full build-out scenario. The project site is located in a highly developed area and surrounded by commercial and industrial buildings. The potential to degrade environmental quality is minimal, as the project site and surrounding properties do not support natural vegetation or features that would allow for extensive wildlife foraging or occupancy. Implementation of **MM BIO-1** and **MM BIO-2**, identified in **Section 5.4 Biological Resources**, would reduce the proposed project's impacts to biological resources (that is, nesting birds and Western burrowing owl) to a less than significant level. The project's impacts on biological resources therefore would not be cumulatively considerable.

Geology and Soils. Impacts on paleontological resources are not specifically addressed in the General Plan EIR. Paleontological resources show evidence of prehuman activity and share several of the impact vulnerabilities that cultural resources face, especially the effects of ground-disturbing activities. The mitigation and avoidance measures (general plan policies 5.6.3-P1 thru 5.6.3-P6) (Santa Clara 2011) presented in the 2010–2035 General Plan EIR would reduce the severity of impacts on paleontological resources. No known paleontological resources have been found on the project site, although ground disturbance associated with the proposed project could result in the exposure and destruction of as-yet unknown paleontological resources. Implementation of **MM GEO-1** would prevent, minimize, or compensate for impacts on paleontological resources. Paleontological resource impacts from the proposed project therefore would not be cumulatively considerable.

Tribal Cultural Resources. The General Plan EIR does not specifically address impacts on tribal cultural resources. Historical resources and unique archaeological resources, as defined by CEQA, share several of the impact vulnerabilities that tribal cultural resources face, especially the effects of ground-disturbing activities. In addition, historical and unique archaeological resources can also qualify as tribal cultural resources. The mitigation and avoidance measures (general plan policies) presented in the 2010–2035 General Plan EIR would reduce the severity of some impacts on tribal cultural resources. No known tribal cultural resources have been found on the project site, although ground disturbance associated with the proposed project could result in the exposure and destruction of buried, as-yet unknown archaeological resources that could qualify as tribal cultural resources. Implementation of **PD CUL-1** and **PD CUL-2** would prevent, minimize, or compensate for impacts on buried, tribal cultural resources. Tribal cultural resources impacts from the proposed project therefore would not be cumulatively considerable.

Discussion of Significant Cumulative Environmental Impacts Identified in the General Plan

The General Plan EIR identified the following significant cumulative environmental impacts:

- Climate Change – Contribution to greenhouse gas (GHG) emission exceeding Santa Clara's emission reduction target for 2035;
- Noise – Increase in localized traffic noise level on roadway segments throughout Santa Clara;
- Population and Housing – Exacerbation of land use impacts arising from the jobs/housing imbalance;
- Traffic – Degradation of traffic operations on regional roadways and highways within Santa Clara of an unacceptable level of service; and
- Solid Waste – Contribution to solid waste generation beyond available capacity after 2024.

Although the project, in combination with future development in the City of Santa Clara, could conceivably have a significant cumulative impact on these environmental resources, the following discussion demonstrates how the project's contribution to these impacts would be less than cumulatively considerable.

Climate Change Impacts

Greenhouse Gas Emissions. The BAAQMD CEQA Air Quality Guidelines do not identify a GHG emissions threshold for construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and the impacts be evaluated in relation to meeting Assembly Bill (AB) 32 GHG reduction goals. The BAAQMD further recommends incorporation of BMPs to reduce GHG emissions during construction, as feasible and applicable. The project's construction emissions would be in conformance with state and local GHG emissions reduction goals, so impacts would be less than significant.

For readiness testing and maintenance-related emissions of the standby generators, the BAAQMD CEQA Air Quality Guidelines state that for a proposed stationary source, the threshold to determine the significance of an impact from GHG emissions is 10,000 metric tons per year of carbon dioxide equivalent ($MTCO_2e/yr$). The GHG emissions from the standby generators are not cumulatively considerable contribution of GHG emissions because their emissions are below the BAAQMD's threshold of 10,000 $MTCO_2e/yr$.

For commercial/industrial land use development projects, BAAQMD recommends using either a numeric threshold of 1,100 $MTCO_2e/yr$ or compliance with a qualified GHG reduction strategy. The GHG emissions related to operations of the data center were evaluated using the City of Santa Clara's Climate Action Plan (CAP) in combination with the Integrated Resource Plan (IRP) for Silicon Valley Power (SVP). The IRP was developed in response to the Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350), which established new clean energy, clean air, and GHG reduction goals for 2030. The California Energy Commission Supply Analysis Office of the Energy Assessments Division have reviewed SVP's 2018 IRP and found that among

other things, by the year 2030 it: (1) achieves a 40 percent GHG emissions reduction from 1990 levels, and (2) meets the Renewables Portfolio Standard (RPS) goals of SB 350 to use 50 percent renewables. Other project-related emissions from mobile sources, area sources, energy use and water use, are not included for comparison to this threshold, based on guidance in the BAAQMD's CEQA Guidelines.

With implementation of the efficiency measures to be incorporated into the project, in combination with SVP's ongoing program to reduce the carbon intensity of its electricity supplies and achieve the State's GHG and RPS goals, this project would not conflict with any such plans or programs. Also, the City of Santa Clara is updating its CAP to extend it through at least 2030 and CEC staff analysis has determined that the SVP is on track for meeting at least its 2030 requirements. Furthermore, the project's stationary sources would not conflict with the Bay Area 2017 Clean Air Plan because its GHG emissions would be less than BAAQMD's threshold of 10,000 $MTCO_2e$/yr, including both testing and maintenance.

Noise Impacts

Compared to existing ambient noise levels, projected noise level increase at the residential area to the north due to the loudest construction/demolition activities could be as high as 19 dBA (depending on the activity occurring and the equipment being used at the time). Implementation of the measures included in **PD NOI-1** would ensure that the noise impact during construction is less than significant. During normal operation, with implementation of **PD NOI-2**, operational noise levels would comply with the city's noise limits and would be below the existing daytime and nighttime ambient noise levels at the nearest residential area as well as the commercial and industrial use area to the west, east, and south of the project.

The General Plan EIR anticipates significant noise impacts from the build-out of the General Plan. The significant noise impacts identified are attributed to noise associated with increased traffic. As discussed in **Section 5.17 Transportation**, traffic from the project would not have a significant impact on surrounding roadways and the transportation network. The project would contribute to vehicle trips during the construction period as trucks deliver construction materials to the project site. These trips would be temporary in nature; therefore, they would not significantly add to regular traffic. The 57 operational employees would generate minimal daily trips and would not substantially increase the traffic in the project area. Any noise impacts associated with construction and operations traffic would be less than significant. The project's contribution to this cumulative impact would not be cumulatively considerable.

Population and Housing Impacts

The General Plan EIR identified significant impacts from the build-out of the General Plan land use designations. The General Plan EIR concluded that the proposed land uses would create a regional jobs/housing imbalance, as workers who are unable to

live near their employment would commute long distances from outlying areas. As described in **Section 5.14 Population and Housing**, the project would not displace any people or housing, or necessitate construction of replacement housing elsewhere. Operation of the project is anticipated to require 57 employees. Based on the proximity of the supply of operations workers, they are not likely to relocate closer to the project. The project's construction and operation workforce would not directly or indirectly induce substantial population growth in the project area. Therefore, the project's contribution to this cumulative impact would not be cumulatively considerable.

Traffic Impacts

The General Plan EIR anticipates significant traffic impacts from the build-out of the General Plan. As discussed in **Section 5.17 Transportation**, the project would not generate significant vehicle miles traveled, and therefore would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Construction vehicle trips would be temporary and would involve short trips from the nearby Bay Area. Operation vehicle trips would be mostly generated by the 57 employees at the site and would not substantially increase the regular traffic in the project area. The project's contribution to this cumulative impact would not be cumulatively considerable.

Solid Waste Impacts

As stated in **Section 5.18 Utilities and Service Systems**, the City of Santa Clara has available landfill capacity at the Newby Island Landfill in the City of San Jose through 2024. The current landfill impacts are addressed within an ongoing Integrated Waste Management Plan of the City of Santa Clara to provide waste disposal services. The project would generate minimal operational waste as data centers typically require very little equipment turnover. Additionally, the project does not include a residential component and would not generate any increases in the supply and demand of utility services and infrastructure. Therefore, the project's contribution to this cumulative impact would not be cumulatively considerable.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. The proposed project would not cause substantial adverse effects on human beings either directly or indirectly. The proposed project would result in temporary impacts to human health during construction, including changes to air quality, exposure to geologic hazards, noise, and exposure to hazardous materials. As discussed in **Section 5.3 Air Quality**, with implementation of **PD AIR-1**, the project would result in a less than significant impact related to human health. As discussed in **Section 5.7 Geology and Soils**, implementation of seismic design guidelines in the current California Building Code and project-specific

recommendations in a final geotechnical engineering report would ensure the project would not expose people or property to significant impacts associated with geologic or seismic conditions onsite. The proposed project would result in temporary noise impacts to humans during construction and intermittently during operation. As discussed in **Section 5.13 Noise**, with implementation of **PD NOI-1** and **NOI-2**, construction and operation-related noise impacts would be less than significant. As discussed in **Section 5.9 Hazards and Hazardous Materials**, hazards impacts would be less than significant. As discussed in **Section 5.10 Hydrology and Water Quality**, water quality impacts would be less than significant. No additional impacts to human beings would occur during operation and maintenance activities.

5.20. References

Santa Clara 2010 - City of Santa Clara (Santa Clara). City of Santa Clara 2010–2035 General Plan. Adopted November 16, 2010. Available online at: http://santaclaraca.gov/government/departments/community-development/planning-division/general-plan

Santa Clara 2011 - City of Santa Clara (Santa Clara). 2010-2035 General Plan Integrated Final Environmental Impact Report. January 2011. Available online at: http://santaclaraca.gov/home/showdocument?id=12900

5.21 Environmental Justice

5.21.1 Setting

The United States Environmental Protection Agency (U.S. EPA) defines environmental justice (EJ) as, "the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies" (U.S. EPA 2015, pg. 4).

The "Environmental Justice in the Energy Commission Site Certification Process" subsection immediately below describes why EJ is part of the CEC's site certification process, the methodology used to identify an EJ population, and the consideration of data from the California Environmental Protection Agency's (CalEPA) California Communities Environmental Health Screening Tool (CalEnviroScreen). Below that, the "Environmental Justice Project Screening" subsection presents the demographic data for those people living in a six-mile radius of the project site and a determination on presence or absence of an EJ population. When an EJ population is identified, the analysis in 10 technical areas[1] and Mandatory Findings of Significance consider the project's impacts on this population and whether any impacts would disproportionately affect the EJ population. Lastly, the "Project Outreach" subsection discusses the CEC's outreach program specifically as it relates to the proposed project.

Environmental Justice in the California Energy Commission Site Certification Process

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on federal agencies to achieve environmental justice as part of their mission. The order requires the U.S. EPA and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

The California Natural Resources Agency recognizes that EJ communities are commonly identified as those where residents are predominantly minorities or live below the poverty level; where residents have been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations, requirements, practices, and activities in

1 The 10 technical areas are Aesthetics, Air Quality, Cultural and Tribal Cultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Transportation, and Utilities and Service Systems. Cultural and Tribal Cultural Resources considers impacts to Native American populations.

their communities. Environmental justice efforts attempt to address the inequities of environmental protection in these communities.

An EJ analysis is composed of the following:

- Identification of areas potentially affected by various emissions or impacts from a proposed project;
- Providing notice in appropriate languages (when possible) of the proposed project and opportunities for participation in public workshops to EJ communities;
- A determination of whether there is a significant population of minority persons, or persons below the poverty level, living in an area potentially affected by the proposed project; and
- A determination of whether there may be a significant adverse impact on a population of minority persons or persons below the poverty level caused by the proposed project alone, or in combination with other existing and/or planned projects in the area.

California law defines EJ as "the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Gov. Code, § 65040.12; Pub. Resources Code, §§ 71110-71118). All departments, boards, commissions, conservancies and special programs of the Resources Agency must consider EJ in their decision-making process if their actions have an impact on the environment, environmental laws, or policies. Such actions that require EJ consideration may include:

- adopting regulations;
- enforcing environmental laws or regulations;
- making discretionary decisions or taking actions that affect the environment;
- providing funding for activities affecting the environment; and
- interacting with the public on environmental issues.

CalEnviroScreen - More Information About an EJ Population

CalEnviroScreen is a science-based mapping tool used by CalEPA to identify disadvantaged communities[2] pursuant to Senate Bill (SB) 535. As required by SB 535, disadvantaged communities are identified based on geographic, socioeconomic, public health and environmental hazard criteria. CalEnviroScreen identifies communities most burdened by pollution from multiple sources and most vulnerable to its effects, taking into account socioeconomic and health status of people living in those communities (OEHHA 2017, pg. 1).

2 The California Environmental Protection Agency, for purposes of its Cap-and-Trade Program, has designated *disadvantaged communities* as census tracts having a CalEnviroScreen score at the top 25 percent (75th percentile) (CalEPA 2017).

Using data from federal and state sources, the tool consists of four components in two broad groups. The Exposure and Environmental Effects components comprise a Pollution Burden group, and the Sensitive Populations and Socioeconomic Factors components comprise a Population Characteristic Group. The four components are made up of environmental, health, and socioeconomic data from 20 indictors.

CalEnviroScreen scores are calculated by combining the individual indicator scores within each of the four components, then multiplying the Pollution Burden and Population Characteristics groups scores to produce a final score (Pollution Burden X Population Characteristics = CalEnviroScreen Score). (CalEPA 2017, pg. 3) Each group has a maximum score of 10, thus the maximum CalEnviroScreen score is 100. Based on these scores, census tracts across California are ranked relative to one another (OEHHA 2017, pg. 6). Values for the various components are shown as percentiles, which indicate the percent of all census tracts with a lower score. A higher percentile indicates a higher potential relative burden.

Table 5.21-1 lists the indicators that go into the Pollution Burden score and the Population Characteristics score to form the final CalEnviroScreen score. These indicators are used to measure factors that affect the potential for pollution impacts in communities.

TABLE 5.21-1 COMPONENTS THAT FORM THE CALENVIROSCREEN 3.0 SCORE

Pollution Burden	
Exposure Indicators	**Environmental Effects Indicators**
Diesel particulate matter (PM) emissions	Cleanup sites
Drinking water contaminants	Groundwater threats
Ozone concentrations	Hazardous waste
PM2.5 concentrations	Impaired water bodies
Pesticide use	Solid waste sites and facilities
Toxic releases from facilities	
Traffic density	
Population Characteristics	
Sensitive Populations Indicators	**Socioeconomic Factors Indicators**
Asthma emergency department visits	Educational attainment
Cardiovascular disease (emergency department visits for heart attacks)	Housing burdened low income households
Low birth-weight infants	Linguistic isolation
	Poverty
	Unemployment

Notes: PM= particulate matter. PM 2.5= fine particulate matter 2.5 microns or less. Source: OEHHA 2017

Part of staff's assessment of how, or if, the project would impact an EJ population includes a review of CalEnviroScreen data for the project area. There are four technical areas that could have project impacts that could combine with the indicators in CalEnviroScreen: Air Quality, Hydrology and Water Quality, Hazards and Hazardous Materials, and Utilities and Service Systems.

The CalEnviroScreen indicators relevant to each of the four technical areas are:

- For air quality, these indicators are; asthma, cardiovascular disease, diesel PM emissions, low birth-weight infants, ozone concentrations, pesticide use, PM2.5 concentrations, toxic releases from facilities, and traffic density.
- For hydrology and water quality, these indicators are; drinking water contaminants, groundwater threats, and impaired water bodies.
- For hazards and hazardous materials discusses the cleanup sites indicator.
- For utilities and service systems, these indicators are; cleanup sites, hazardous waste, and solid waste sites and facilities.

When these technical areas have identified a potential project impact where an EJ population is present, CalEnviroScreen is used to better understand the characteristics of the areas where the impact would occur and ensure that disadvantaged communities in the vicinity of the proposed project have not been missed when screened by race/ethnicity and low income.

There are several limitations with CalEnviroScreen that are important to note (OEHHA 2017, pgs. iii, 1-3, 6, 12). These limitations and items to note include the following:

- The core purpose of this tool is to characterize "impacts" of pollution in communities with respect to factors that are not routinely included in risk assessments, where "impacts," for the purposes of this tool, refers broadly to stressors that can affect health and quality of life.
- The tool is a screening tool developed to conduct statewide evaluations of community-scale impacts.
- Many factors, or stressors, contribute to a community's pollution burden and vulnerability.
- Integration of multiple stressors into a risk assessment is currently not feasible.
- The score provides a relative rather than absolute measure of pollution's impacts and vulnerabilities in California communities.
- The score provides a broad picture of the burdens and vulnerabilities that communities confront from environmental pollutants.
- A percentile does not describe the magnitude of the difference between two tracts, rather it simply tells the percentage of tracts with lower values for that indicator.
- The score is for a given tract relative to other tracts in the state.

The tool did not/does not:

- substitute for a cumulative impact analysis under the California Environmental Quality Act (CEQA);
- restrict the authority of government agencies in permit and land use decisions;

- guide all public policy decisions; and,
- inform the implementation of many policies, programs and activities throughout the state.

Project Outreach

As a part of the U.S. EPA's definition of EJ, meaningful involvement is an important part of the siting process. Meaningful involvement occurs when:

- those whose environment and/or health would be potentially affected by the decision on the proposed activity have an appropriate opportunity to participate in the decision;
- the population's contribution can influence the decision;
- the concerns of all participants involved are considered in the decision-making process; and,
- involvement of the population potentially affected by the decision on proposed projects.

CEC staff and the Public Advisor's Office (PAO) coordinated closely on public outreach early in the review process. The PAO outreach contact consisted of emails and phone calls to local elected officials, EJ organizations, local chamber of commerce, schools and school districts, community centers, daycare centers, park departments, religious organizations, local hospitals, and asthma clinics within a six-mile radius of the proposed project.

CEC staff docketed and mailed to the project mail list, including EJ organizations and similar interest groups, a Notice of Receipt of the Mission College Data Center (or project) Small Power Plant Exemption (SPPE) Application on January 3, 2020. Based on current U.S. Census English fluency data for the population residing in the cities and communities within a six-mile radius of the project site, translation of project notices was deemed appropriate. U.S. Census data also showed that of those who report they "Speak English less than very well", the predominant language spoken was Chinese. Mandarin Chinese was the more commonly spoken dialect. Public notices for the project in both English and Chinese (Mandarin) were published in local newspapers on March 27, 2020.

In accordance with the Governor's Executive Order B-10-11, the CEC's Tribal Consultation Policy, the CEC's Siting Regulations, and recent amendments to CEQA (that is, Assembly Bill 52), staff conducted outreach and consultation with regional tribal governments. Additional information regarding the outreach efforts and specific groups contacted can be found in **Section 5 Cultural and Tribal Cultural Resources**.

As described in **Section 3 Introduction to the Initial Study**, staff mailed notification of the Initial Study (IS)/Proposed Mitigated Negative Declaration (PMND) to property owners and occupants within 1,000 feet of the project site and 500 feet of the linear facilities.

Environmental Justice Project Screening

Figure 5.21-1 shows 2010 census blocks in a six-mile radius of the project with a minority population greater than or equal to 50 percent (U.S. Census 2010). The population in these census blocks represents an EJ population based on race and ethnicity as defined in the U.S. EPA's *Guidance on Considering Environmental Justice During the Development of Regulatory Actions* (U.S. EPA 2015).

Based on California Department of Education data in **Table 5.21-2** and presented in **Figure 5.21-2**, staff concludes that the percentage of those living in the school districts of Campbell Union Elementary, Luther Burbank Elementary, Orchard Elementary, San Jose Unified, and Santa Clara Unified (in a six-mile radius of the project site) are 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 5.21-2 LOW INCOME DATA WITHIN THE PROJECT AREA

School Districts in a Six-Mile Radius of the Project Site	Enrollment Used for Meals	Free or Reduced Price Meals	Percent of Free or Reduced Price Meals
Berryessa Union Elementary	7,102	2,459	34.6%
Campbell Union Elementary	**7,298**	**3,192**	**43.7%**
Campbell Union High	8,043	1,996	24.8%
Cupertino Union Elementary	18,017	1,170	6.5%
Luther Burbank Elementary	**517**	**198**	**38.3%**
Milpitas Unified	10,318	3,452	33.5%
Mountain View Whisman Elementary	5,132	1,748	34.1%
Orchard Elementary	**875**	**442**	**50.5%**
San Jose Unified	**31,713**	**14,479**	**45.7%**
Santa Clara Unified	**15,509**	**6,402**	**41.3%**
Sunnyvale Elementary	6,575	2,282	34.7%
Reference Geography			
Santa Clara County	272,155	102,647	37.7%

Note: **Bold** indicates school districts considered having an EJ population based on low income.
Source: CDE 2018.

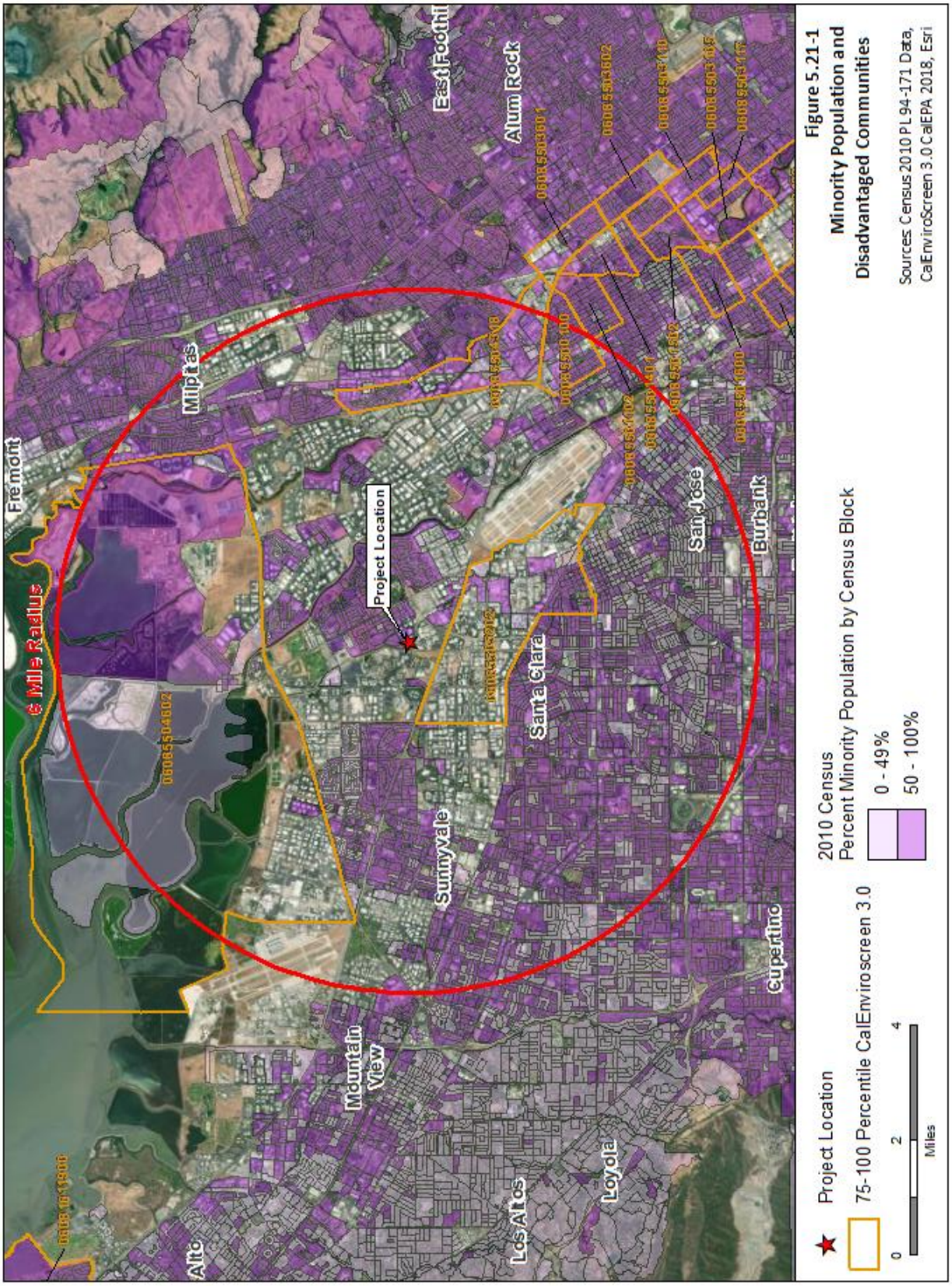


Figure 5.21-1
Minority Population and
Disadvantaged Communities
Sources: Census 2010 PL 94-171 Data,
CalEnviroScreen 3.0 CalEPA 2018, Esri
2010 Census
Percent Minority Population by Census Block
0 - 49%
50 - 100%
Project Location
75-100 Percentile CalEnviroscreen 3.0
0
2
4
Miles
6 Mile Radius
Project Location
Fremont
Milpitas
East Foothi
Alum Rock
San Jose
Burbank
Santa Clara
Sunnyvale
Cupertino
Mountain View
Los Altos
Loyola
Alto

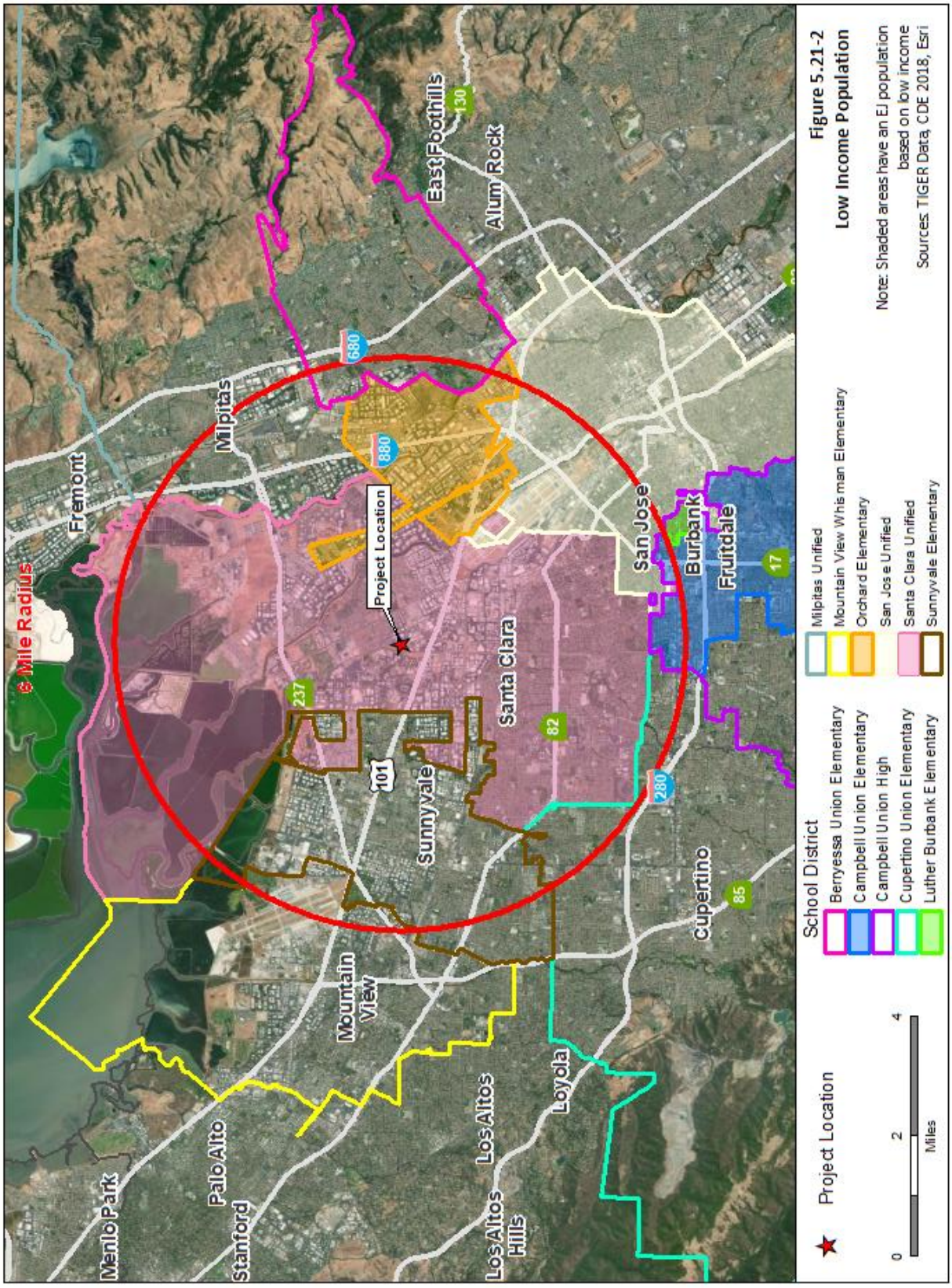


Figure 5.21-2
Low Income Population
Note: Shaded areas have an EJ population based on low income
Sources: TIGER Data, CDE 2018, Esri
6 Mile Radius
Project Location
Fremont
Milpitas
East Foothills
Alum Rock
San Jose
Burbank
Fruitdale
Santa Clara
Sunnyvale
Mountain View
Cupertino
Los Altos
Loyola
Los Altos Hills
Palo Alto
Stanford
Menlo Park
680
880
237
101
82
280
85
17
130
School District
Berryessa Union Elementary
Campbell Union Elementary
Campbell Union High
Cupertino Union Elementary
Luther Burbank Elementary
Milpitas Unified
Mountain View Whis man Elementary
Orchard Elementary
San Jose Unified
Santa Clara Unified
Sunnyvale Elementary
Project Location
0
2
4
Miles

CalEnviroScreen- Disadvantaged Communities

CalEnviroScreen 3.0 was used to gather additional information about the population potentially impacted by the proposed project. The CalEnviroScreen indicators are used to measure factors that affect the potential[3] for pollution impacts in communities (OEHHA 2017). Staff used CalEnviroScreen to identify disadvantaged communities[4] in the vicinity of the proposed project and better understand the characteristics of the areas where impacts would occur (see **Figure 5.21-1**, which includes CalEnviroScreen-defined disadvantaged communities by census tracts). **Table 5.21-3** presents the CalEnviroScreen overall scores for the disadvantaged communities within a six-mile radius of the project site.

TABLE 5.21-3 CALENVIROSCREEN SCORES FOR DISADVANTAGED COMMUNITIES

Census Tract No.	Total Population	CES 3.0 Percentile	Pollution Burden Percentile	Population Characteristics Percentile
06085500100	6,339	89	93	71
06085504318	5,265	87	95	66
06085504602	2,144	82	88	65
06085505202	5,867	77	88	58

Notes: Disadvantaged communities by census tract in the project's 6-mile radius. Source: OEHHA 2018

Table 5.21-4 presents the CalEnviroScreen percentiles for the indicators that make up the pollution burden percentile in a six-mile radius of the project site. Where percentiles for CalEnviroScreen indicators are 90 and above, the percentile is shown in bold. These relatively higher percentiles could be seen as drivers for the census tract's identification as a disadvantaged community. There are two census tracts where the combined pollution burden percentile is 90 or above and four census tracts where individual pollution burden indicators are in the 90 or above percentile. **Table 5.21-5** presents the CalEnviroScreen percentiles for the indicators that make up the population characteristics in a six-mile radius of the project site. There are no census tracts where the combined population characteristics percentile is 90 or above and two census tracts where individual population characteristics indicators are in the 90th or above percentile.

3 It is important to note that CalEnviroScreen is not an expression of health risk and does not provide quantitative information on increases of impacts for specific sites or project. CalEnviroScreen uses the criteria of "proximity" to a hazardous waste site, a leaking underground tank, contaminated soil, an emission stack (industry, power plant, etc.) to determine that a population is "impacted". It does not address general principles of toxicology: dose/response and exposure pathways. For certain toxic chemicals to pose a risk to the public, offsite migration pathways must exist (through ingestion, inhalation, dermal contact, etc.) and contact to a certain amount – not just any amount – must exist.

4 The California Environmental Protection Agency (CalEPA), for purposes of its Cap-and-Trade Program, has designated *disadvantaged communities* as census tracts having a CalEnviroScreen score at or above the 75th percentile (CalEPA 2017). As a comparative screening tool, it is not intended to be used as a health or ecological risk assessment for a specific area or site.

TABLE 5.21-4 CALENVIROSCREEN INDICATOR PERCENTILES FOR POLLUTION BURDEN FOR DISADVANTAGED COMMUNITIES

Census Tract No.	Percentiles												
	Pollution Burden	**Ozone**	**PM2.5**	**Diesel PM**	**Drinking Water**	**Pesticides**	**Toxic Release**	**Traffic**	**Cleanup Sites**	**Groundwater Threats**	**Hazardous Waste**	**Impaired Water Bodies**	**Solid Waste**
06085500100	**93**	17	53	**92**	51	0	48	82	**99**	**97**	**97**	41	**97**
06085504318	**95**	17	53	**92**	57	0	54	88	**100**	**98**	**100**	29	**100**
06085504602	88	17	43	26	30	38	35	88	**99**	**92**	88	**91**	**100**
06085505202	88	17	53	**90**	14	0	57	72	**100**	**98**	**99**	41	**95**

Notes: Disadvantaged communities by census tract in the project's 6-mile radius. **Bold** indicates a percentile is 90 or above.
Source: OEHHA 2018

TABLE 5.21-5 CALENVIROSCREEN INDICATOR PERCENTILES FOR POPULATION CHARACTERISTICS FOR DISADVANTAGED COMMUNITIES

Census Tract No.	Percentiles								
	Population Characteristics	**Asthma**	**Low Birth Weight**	**Cardiovascular Disease**	**Education**	**Linguistic Isolation**	**Poverty**	**Unemployment**	**Housing Burden**
06085500100	71	71	49	65	72	69	60	60	69
06085504318	66	41	61	44	77	**95**	69	67	54
06085504602	65	80	**100**	34	47	67	34	49	49
06085505202	58	35	80	52	66	76	55	7	70

Notes: Disadvantaged communities by census tract in the project's 6-mile radius. **Bold** indicates a percentile is 90 or above. Source: OEHHA 2088

This page is intentionally blank

5.21.2 Environmental Impacts and Mitigation Measures

The following technical areas discuss impacts to EJ populations: Aesthetics, Air Quality[5], Cultural and Tribal Cultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Transportation, and Utilities and Service Systems. Cumulative impacts to EJ populations are also discussed in the "Mandatory Findings of Significance" subsection below.

Part of staff's assessment of how, or if, the project would impact an EJ population includes a review of CalEnviroScreen data for the project area. There are four technical areas that could have project impacts that could combine with the indicators in CalEnviroScreen: Air Quality, Hazards and Hazardous Materials, Hydrology and Water Quality, and Utilities and Service Systems. When these technical areas have identified a potential impact where an EJ population is present, CalEnviroScreen is used to better understand the characteristics of the areas where the impact would occur and ensure that disadvantaged communities in the vicinity of the proposed project have not been missed when screened by race/ethnicity and low income.

Aesthetics

Less Than Significant Impact. A disproportionate impact pertaining to Aesthetics to an EJ population may occur if a project is in proximity to an EJ population and the following:

- The project, if in an urbanized area per Public Resources Code, section 21071, conflicts with applicable zoning and other regulations governing scenic quality.
- The project, if in a non-urbanized area, substantially degrades the existing visual character or quality of the public view of the site and its surroundings.
- The project creates a new source of substantial light, glare and reflectivity that would adversely affect day or nighttime views in the area.

As discussed in **Section 5.1 Aesthetics**, the project is in an urbanized area, and conforms to the applicable City of Santa Clara zoning and other regulations governing scenic quality inclusive of a minor modification in allowable height.

The project includes outdoor lighting for driveways, entrances, walkways, parking areas, and security purposes. Fully shielded light fixtures prevent light emission above the horizon into the sky, greatly reducing sky glow. The project design includes directional and shielded light fixtures to keep lighting onsite and to minimize brightness and glare from lights. Glass curtain walls can have high-ground reflectance. The orientation of the façades dictate the incident angle of the beam of light and with the use of multi-use glass and specialty glass coatings would prevent reflectivity.

5 Public Health concern discussed under Air Quality.

For the above reasons, the project would not have a disproportionate effect to an EJ population and would have a less than significant effect.

Air Quality

Less Than Significant Impact. For this Air Quality subsection, **Table 5.21-4** and **Table 5.21-5** include indicators that relate to both air quality and public health. The indicators that are associated with criteria pollutants such as ozone, fine particulate matter having a diameter of less than or equal to 2.5 microns (PM2.5), and NO_2 are indicators related to air quality. Indicators that are associated with protecting public health are: Diesel PM, Pesticide Use, Toxic Release from Facilities, Traffic Density, Asthma ER Visits, Low Birth Weight Infants, and Cardiovascular Disease. Each of these air quality and public health indicators are summarized under this Air Quality subsection.

For air quality, ambient air quality standards (AAQS) are established to protect the health of even the most sensitive individuals in our communities, which includes the EJ population, by defining the maximum amount of a pollutant that can be present in outdoor air without harm to the public's health. Both the California Air Resources Board and the U.S. EPA are authorized to set ambient air quality standards.

Staff identified the potential air quality impacts (that is, ozone and PM2.5) that could affect the EJ population represented in **Figures 5.21-1** and **5.21-2**. Staff also examined individual contributions of indicators in CalEnviroScreen that are relevant to air quality (see **Table 5.21-4**).

For the public health, staff identified the potential public health impacts (that is, cancer and non-cancer health effects) that could affect the EJ population represented in **Figures 5.21-1** and **5.21-2**. These potential public health risks were evaluated quantitatively based on the most sensitive population, which includes the EJ population, by conducting a health risk assessment. The results were presented by levels of risk. The potential construction and standby generator readiness testing and maintenance risks are associated with exposure to diesel particulate matter, total organic gases in diesel exhaust, and evaporative and exhaust total organic gases from gasoline vehicles. The toxic air contaminants from total organic gases include 1,3-Butadiene, Acetaldehyde, Benzene, Ethylbenzene, Formaldehyde, n-Hexane, Methanol, Methyl Ethyl Ketone, Napthalene, Propylene, Styrene, Toluene, and Xylene.

Staff concluded that construction, readiness testing and maintenance, and any emergency operation as defined in **Section 5.3 Air Quality** of this IS/PMND are not likely to cause significant adverse direct or indirect air quality or public health impacts. Criteria pollutants would not cause or contribute to exceedances of health-based ambient standards and the project's toxic air emissions would not exceed health risk limits. No mitigation is needed. Likewise, the project would not cause disproportionate air quality or public health impacts on sensitive populations, such as the EJ population represented in **Figures 5.21-1** and **5.21-2**.

The text below addresses each of the air quality and public health indicators included in Tables **5.21-4** and **5.21-5**.

Ozone Impacts

Ozone is known to cause numerous health effects, which can potentially affect EJ communities as follows:

- lung irritation, inflammation and exacerbation of existing chronic conditions, even at low exposures (Alexis et al. 2010, Fann et al. 2012, Zanobetti and Schwartz 2011);
- increased risk of asthma among children under 2 years of age, young males, and African American children (Lin et al., 2008, Burnett et al., 2001); and,
- higher mortality, particularly in the elderly, women and African Americans (Medina-Ramon, 2008).

Even though ozone would not be directly emitted from emission sources such as the backup generators. Precursor pollutants that create ozone, such as nitrogen oxides (NOx) and volatile organic compounds (VOCs), would be emitted. Before obtaining a permit to construct from the Bay Area Air Quality Management District (BAAQMD) for the backup generators, the applicant would purchase NOx emission reduction credits (ERCs) that would come from within the San Francisco Bay Area Air Basin. The ERCs would offset emissions from readiness testing and maintenance. The BAAQMD would determine the quantity and location of ERCs required to fully offset the project's ozone precursors during the permitting process.

For CalEnviroScreen, the air monitoring data used in this indicator reflect ozone measurements for the years 2011 to 2013. While the data is somewhat dated, all census tracts use the same time period to determine relative ranking and relative rankings would not change using more current data unless one region is a lot more successful in achieving the ozone standards than other regions. CalEnviroScreen 3.0 uses the average daily maximum one-hour ozone concentration. According to CalEnviroScreen data, ozone concentrations in each census tract are ordered by ozone concentration values, and then are assigned a percentile based on the statewide distribution of values.

Results for ozone are included in **Table 5.21-4.** The percentile for all four census tracts are the same at the 17th percentile. This means ozone levels in these census tracts are relatively low, with lower values reported for just 17 percent of all the census tracts in California. Another way to look at the data is that approximately 83 percent of all California census tracts have higher ozone levels than these near the project. For ozone, all of the census tracts within a six-mile radius of the proposed project's site are not exposed to high ozone concentrations compared to the rest of the state.

The project would not be expected to contribute significantly to regional air quality as it relates to ozone. The project would be required to comply with ambient air quality emission rate limits for NOx and VOCs, which are precursor pollutants that create ozone

during the construction and testing and maintenance phases. The project would use best management practices (BMPs) during construction, which would reduce NOx and VOCs. The project's impacts are not expected to cause exceedance of ambient air quality standards during readiness testing and maintenance. NOx emissions resulting from readiness testing and maintenance would be high enough to trigger offset requirements due to BAAQMD Regulation 2, Rule 2. Therefore, the applicant would be required to offset NOx with ERCs at the offset ratio of 1.15:1, thus reducing net impacts to levels below the BAAQMD's annual CEQA threshold. VOC emissions would be below the BAAQMD's threshold of significance and the applicant would not be required to offset them. Therefore, the project would not contribute significantly to regional ozone concentrations, relative to baseline conditions.

The project's ozone and ozone precursor air quality impacts would be less than significant for the local EJ community and the general population. Additionally, with the provision of NOx offsets, regionwide NO_2 concentrations, and their effects on NO_2 secondary pollutants such as ozone, would effectively be reduced in the air basin.

PM2.5 Impacts

PM is a complex mixture of aerosolized solid and liquid particles including such substances as organic chemicals, dust, allergens, and metals. These particles can come from many sources, including cars and trucks, industrial processes, wood burning, or other activities involving combustion. The composition of PM depends on the local and regional sources, time of year, location, and weather.

PM2.5 is known to cause numerous health effects that can potentially affect EJ communities. Particles in this size range can have adverse effects on the heart and lungs, including lung irritation, exacerbation of existing respiratory disease, and cardiovascular effects.

For CalEnviroScreen, the indicator PM2.5 is determined by the annual mean concentration of PM2.5 (average of quarterly means), averaged over three years (2011-2013). While the data is somewhat dated, all census tracts use the same time period to determine relative ranking and relative rankings would not change using more current data unless one region is a lot more successful in achieving PM2.5 standards than other regions. According to CalEnviroScreen data, PM2.5 concentrations in each census tract are ordered by PM2.5 concentration values, and then are assigned a percentile based on the statewide distribution of values and are shown in **Table 5.21-4**. The percentiles are 53 for all census tracts except 6085504602, which was at the 43rd percentile. All census tracts within a six-mile radius of the proposed project's site are average compared to other census tracts in California.

The project would not be expected to contribute significantly to the regional air quality related to PM2.5. The project would be required to comply with ambient air quality standards for particulate matter during construction, and readiness testing and maintenance of the standby generators. The project would use BMPs during

construction, which would reduce particle matter. The project is also expected to be below ambient air quality standards during readiness testing and maintenance. Therefore, the project would not contribute significantly to regional PM2.5 concentrations, relative to baseline conditions.

The project's PM2.5 air quality impacts would be less than significant for the local EJ community and the general population. Additionally, with the provision of NOx offsets, NO_2 region wide concentrations, and their effects on NO_2 secondary pollutants such as PM, would effectively be reduced in the air basin.

NO_2 Impacts

As stated in **Section 5.3 Air Quality,** staff conducted an additional assessment of other criteria pollutant impacts. Specifically, staff completed an independent modeling analysis for the standby generator readiness testing and maintenance activities to determine NO_2 impacts. Staff's conservative 1-hour NO_2 modeling results indicate that the backup generator's readiness testing and maintenance would not cause adverse NO_2 impacts to the EJ population.

The project's NO_2 air quality impacts would be less than significant for the local EJ community and the general population. Additionally, with the provision of NOx offsets, regionwide NO_2 concentrations, and their effects on NO_2 secondary pollutants such as PM and ozone, would effectively be reduced in the air basin.

Diesel PM

This indicator represents how much diesel PM is emitted into the air within and near the census tract. The data are from 2012 California Air Resources Board's emission data from on-road vehicles (trucks and buses) and off-road sources (ships and trains, for example). This is the most recent data available with which to make the necessary comparisons. While it is several years old, all census tracts use the same time period to determine relative ranking and relative rankings would not change using more current data unless one region is a lot more successful in implementing diesel PM controls such as replacing diesel vehicles with electric vehicles.

Among these four census tracts, three are equal to or greater than the 90th percentile (see **Table 5.21-4**). The highest percentiles being 92, 92, and 90 (in census tracts 6085500100, 6085504318, and 06085505202 respectively), meaning these three are higher than 92 and 90 percent of all the census tracts in California. However, according to the results of the health risk assessment conducted for this project in **Section 5.3 Air Quality**, impacts associated with diesel PM from the proposed project construction and readiness testing and maintenance activities (diesel-fueled equipment) would be less than significant.

The project's diesel PM impacts would be less than significant for the local EJ community and the general population.

Pesticide Use

Specific pesticides included in the pesticide use indicator were narrowed from the list of all registered pesticides in use in California to focus on a subset of 70 chemicals that are filtered for hazard and volatility for the years 2012-2014 collected by the California Department of Pesticide Regulation. This is the most recent data available with which to make the necessary comparisons. While it is several years old, all census tracks use the same time period, and it is only used to compare the census tracts to one another using similar vintage data. Relative rankings would only occur if one area were to change from agricultural land uses to another use. Only pesticides used on agricultural commodities are included in the indicator.

For pesticide use, all census tracts within a six-mile radius of the proposed project's site have a zero (0) percentile use, except census tract 06085504602, which has a 38th percentile (see **Table 5.21-4**). This indicates that agricultural pesticide use in these census tracts are below the statewide average. Therefore, the EJ population and the general public in this area are currently not exposed to high pesticide use compared to the rest of the state. The applicant has not indicated whether any pesticides would be used at the project site, but as there would be landscaping around the project, it is reasonable to assume that some pesticides would be used in small amounts in the maintenance of the landscaping and building housekeeping. Any pesticide use at the project site would not have a significant cumulative contribution to pesticide use in the vicinity of the project site.

The project's pesticide use would be less than significant for the local EJ community and the general population.

Toxic Releases from Facilities

This indicator represents modeled air concentrations of chemical releases from large facility emissions in and near a census tract. The U.S. EPA provides public information on the amount of chemicals released into the environment from many facilities. This indicator uses the modeled air concentration and toxicity of the chemical to determine the toxic release score. The data are from 2011-2013. This is the most recent data available with which to make the necessary comparisons. While it is several years old, all census tracks use the same time period, and it is only used to evaluate local census tracts and compare them to other census tracts using the same vintage data.

Census tract 6085505202, was at the 57th percentile for the Toxic Release from Facilities indicator (see **Table 5.21-4**). This indicates that toxic release from facilities threats in this census tract is higher than 57 percent of census tracts statewide. Census tract 6085504318 is also within a six-mile radius of the project site and it has the second highest percentile, at 54 percent. All other census tracts within a six-mile radius of the

project site have toxic release percentiles ranging from about 35th to 48th percentile. This indicates that these communities are average for exposure to toxic releases from facilities compared to the rest of the state.

According to the results of the health risk assessment conducted for the project in **Section 5.3 Air Quality**, impacts associated with toxic releases from construction, and readiness testing and maintenance activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to toxic releases.

The project's toxics emissions would be less than significant for the local EJ community and the general population.

Traffic Density

This indicator represents the sum of traffic volumes adjusted by road segment length. It is calculated by dividing the traffic volumes by the total road length within 150 meters of the census tract boundary. It is not a measure of level of service on roadways. The data are from 2013. This is the most recent data available with which to make the necessary comparisons. While it is several years old, all census tracks use the same time period, and it is only used to evaluate local census tracts and compare them to other census tracts using the same vintage data. Among the four census tracts of staff's focus, none are higher than the 90th percentile (see **Table 5.21-4**).

Census tracts 6085504318 and 6085504602 are within a six-mile radius of the project site and have the highest percentile for the Toxic Release from Facilities indicator, at 88 percent (see **Table 5.21-4**). Traffic Density is related to diesel PM emitted from diesel-fueled vehicles. However, according to the results of the health risk assessment conducted for the project in **Section 5.3 Air Quality**, impacts associated with diesel PM from construction, and readiness testing and maintenance activities (diesel-fueled equipment) would be less than significant.

The project's traffic volume impact would not have a significant cumulative contribution to the traffic density for the local EJ community and the general population.

Asthma ER Visits

This indicator is a representation of an asthma rate. It measures the number of emergency room visits for asthma per 10,000 people over the years 2011 to 2013. This is the most recent data available with which to make the necessary comparisons. While it is several years old, all census tracks use the same time period, and it is only used to evaluate local census tracts and compare them to other census tracts using the same vintage data. The information was collected by the California Office of Statewide Health Planning and Development.

The highest census tract is 6085504602 was at the 80th percentile for the Asthma indicator (see **Table 5.21-5**). This indicates the number of emergency room visits for asthma per 10,000 people over the years 2011 to 2013 are higher than 80 percent of

tracts statewide. This indicates that these communities have an above average number of emergency room visits due to asthma compared to the rest of the state.

According to the results of the health risk assessment conducted for the project in **Section 5.3 Air Quality**, impacts associated with emissions from construction, and readiness testing and maintenance activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to asthma ER visits.

The project's emissions would not have a significant cumulative contribution to asthma ER visits for the local EJ community and the general population.

Low Birth Weight Infants

This indicator measures the percentage of babies born weighing less than 2500 grams (about 5.5 pounds) out of the total number of live births over the years 2006 to 2012. This is the most recent data available with which to make the necessary comparisons. While it is several years old, all census tracks use the same time period, and it is only used to evaluate local census tracts and compare them to other census tracts using the same vintage data. The information was collected by the California Department of Public Health. Among these four census tracts, Census Tract 6085504602 has the highest potential relative burden (see **Table 5.21-5**). Census tract 6085505202 was at the 80th percentile in the Low Birth Weight category (see **Table 5.21-4**). This means that the percent of births deemed to be associated with low birth weight is higher than all but 20 percent of all census tracts in California.

In this census tract, the total population is of 2,144 people, with 10 percent of births were of low birth weight. Note that this tract has a relatively small population (94 percent of the California census tracts have a larger population than this tract) such that small changes in a particular measure such as birth weight can skew the results compared to other tracts. Staff's health risk assessment was based on a highly conservative health-protective methodology that accounts for impacts on the most sensitive individuals in a population. According to the results of the assessment, the risks of the nearest sensitive receptors (that is, Maximally Exposed Individual Sensitive Receptor [MEISR] and Maximally Exposed Individual Resident [MEIR]) are all below health-based thresholds. Therefore, the toxic emissions from the project would not cause significant health effects for the low birth weight infants.

The project's emissions would not have a significant cumulative contribution to low birth weight infant births for the local EJ community and the general population.

Cardiovascular Disease

This indicator represents the rate of heart attacks. It measures the number of emergency department visits for acute myocardial infarction (heart attack) per 10,000 people over the years 2011 to 2013. This is the most recent data available with which to make the necessary comparisons. While it is several years old, all census tracks use the same time

period, and it is only used to evaluate local census tracts and compare them to other census tracts using the same vintage data.

The highest percentile for this category is in Census tract 6085500100 at the 65th percentile for the Cardiovascular Disease indicator, meaning the percent number is emergency department visit for acute myocardial infarction (heart attack) per 10,000 people over the years 2011 to 2013 is slightly above average as compared to all other census tracts in California (see **Table 5.21-5**)

According to the results of the health risk assessment conducted for the project in **Section 5.3 Air Quality**, impacts associated with emissions from construction, and readiness testing and maintenance activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to cardiovascular disease.

The project's emissions would not have a significant cumulative contribution to cardiovascular disease for the local EJ community and the general population.

Cultural and Tribal Cultural Resources

No Impact. Staff considered EJ populations in its analysis of the project. Staff did not identify any Native American EJ populations that either reside within 6 miles of the project or that rely on any subsistence resources that could be impacted by the proposed project.

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 (one for each generator) with proper monitoring controls. The monitoring system would be electronically linked to an audible and visual alarm system that would alert personnel if a leak is detected. In addition, the most likely spill scenario would occur during the filling of the individual tanks from the tanker trunks. Each truck would use spill controls such as an automatic stop on the filling and absorbent pads around the filling port to ensure that any diesel would not escape off site. Therefore, the likelihood of a spill to impact the surrounding community and EJ population would be very unlikely, thus 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 the project would contribute to impairment of drinking

water, exacerbate groundwater contamination threats, or contribute pollutants to impaired water bodies.

Since the overall CalEnviroScreen score reflects the collective impacts of multiple pollutants and factors, staff examined the individual contributions to indicators as they relate to hydrology and water quality. The pollutants of concern in this analysis are those from construction and operational activities. The CalEnviroScreen scores for the disadvantaged community census tracts in a 6-mile radius of the project (see **Figure 5.21-1**) are presented in **Table 5.21-4** for each of the following environmental stressors that relate to hydrology and water quality: Drinking Water Contaminants, Groundwater Threat, and Impaired Water Bodies. The percentile for each disadvantaged census tract reflects its relative ranking among all of California's census tracts. A disproportionate hydrology or water quality impact on an EJ population could occur if a project introduces an additional pollutant burden to a disadvantaged community.

CalEnviroScreen assigns a score to each type of stressor. To assess the impact of a stressor on population within a census tract, the score is assigned a weighting factor that decreases with distance from the census tract. For stationary stressors related to hydrology or water quality, the weighting factor diminishes to zero for distances larger than 1,000 meters (0.6 mile). As **Figure 5.21-1** shows, all but one of the assessed census tracts are more than 1,000 meters away from the project. The only census tract that is within 1,000 meters of the proposed project site is tract 6085505202. Therefore, this analysis focuses on that census tract.

Drinking Water Contaminants

Low income and rural communities, particularly those served by small community water systems, can be disproportionately exposed to contaminants in their drinking water. CalEnviroScreen aggregates drinking water quality data from the California Department of Public Health, the U.S. EPA, and the California State Water Resources Control Board (SWRCB). The score provided by the Drinking Water Contaminant metric calculation is intended to rank water supplies relative to their history or likelihood to provide water that exceeds drinking water standards.

Census tract 6085505202 scored 14 percent in the Drinking Water Contaminants category (see **Table 5.21-4**). This indicates that drinking water contamination threats in this census tract are very low. This suggests that this community is not expected to have a high level of exposure to contaminants through drinking water.

The project would not be expected to contribute significantly to drinking water source degradation. The project would be required to comply with the Clean Water Act (CWA) by controlling the discharge of pollutants during its construction and operation phases. The project would implement modern operational phase storm water and containment controls that would improve upon the site's potential to release contaminants to the environment. The project would therefore be expected to provide a long-term drinking water quality benefit relative to baseline conditions. The project's hydrology and water

quality impacts would be reduced to less than significant for the census tract of concern and the general population.

Groundwater Threats

Common groundwater pollutants found at leaking underground storage tank and cleanup sites in California include gasoline and diesel fuels, chlorinated solvents and other VOCs such as benzene, toluene, and methyl tert-butyl ether; heavy metals such as lead, chromium and arsenic; polycyclic aromatic hydrocarbons; persistent organic pollutants like polychlorinated biphenyls; Dichlorodiphenyltrichloroethane and other insecticides; and perchlorate. CalEnviroScreen aggregates data from the SWRCB's GeoTracker website about groundwater threats. The score provided by the Groundwater Threat metric calculation is intended to rank the relative risk of environmental contamination by groundwater contamination, within each census tract.

Census tract 6085505202 scored 98 percent in the Groundwater Threat category (see **Table 5.21-4**). This indicates that groundwater contamination threats in this census tract are within the top 10 percent of tracts statewide. This indicates that this community is located alongside a high relative proportion of groundwater threats.

The project would not be expected to contribute significantly to groundwater degradation, relative to existing conditions. The project would be required to comply with the CWA by controlling the discharge of pollutants during its construction and operation phases. The project would implement modern operational phase storm water and containment controls that would improve upon the site's potential to release contaminants to groundwater. The project would therefore be expected to provide a long-term drinking groundwater quality benefit relative to baseline conditions. The project's hydrology and water quality impacts would be reduced to less than significant for the census tract of concern and the general population.

Impaired Water Bodies

Rivers, lakes, estuaries and marine waters in California are important for many different uses. Water bodies used for recreation may also be important to the quality of life of nearby residents if subsistence fishing is critical to their livelihood. Water bodies also support abundant flora and fauna. Changes in aquatic environments can affect biological diversity and overall health of ecosystems. Aquatic species important to local economies may be impaired if the habitats where they seek food and reproduce are changed. Additionally, communities of color, low-income communities, and tribes generally depend on the fish, aquatic plants, and wildlife provided by nearby surface waters to a greater extent than the general population. CalEnviroScreen aggregates data from the SWRCB's Final 2012 California Integrated Report (CWA Section 303(d) List / 305(b) Report). The score provided by the Impaired Water Bodies metric calculation is intended to rank the relative risk of impaired water bodies, within each census tract.

Census tract 6085505202 scored 41 percent in the Groundwater Threat category (see **Table 5.12-4**). This indicates that Impaired Water Bodies in this census tract are near the statewide average in terms of relative abundance. This indicates that these communities are not expected to contain a high abundance of impaired water bodies.

The project would not be expected to contribute significantly to the impairment of local or regional water bodies. The project would be required to comply with the CWA by controlling the discharge of pollutants during its construction and operation phases. The project would implement modern operational phase storm water and containment controls that would improve upon the site's potential to release contaminants to the environment. The project would therefore be expected to provide a long-term benefit to local and regional water bodies, relative to baseline conditions. The project's hydrology and water quality impacts would be reduced to less than significant for the census tract of concern and the general population.

Land Use and Planning

Less Than Significant Impact. The project is in an area with the General Plan land use designation of Low-Intensity Office/Research and Development (R&D), which specifically allows data centers. The project site is in the ML, Light Industrial zoning district. Maximum permitted building height in the ML zoning district is 70 feet. The data center would have a typical height of approximately 87.5 feet from adjacent grade to the top of the parapet, which the applicant is requesting a minor modification from the City of Santa Clara staff Zoning Administrator to allow the height exceedance. With granting of the minor modification, the project would conform to zoning. The height added by the penthouse for equipment screening at the top of the data center buildings would conform to the Special Height Regulations contained in the City of Santa Clara Zoning Code. As discussed in section **5.11 Land Use and Planning,** the project would not conflict with land use plans or policies such that significant environmental impacts would occur. The impact would be less than significant for all populations. There would be no disproportionate impact to EJ populations from this project.

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. The project site is within an area having an EJ population. The area surrounding the site is primarily industrial and commercial uses, and the nearest residences are approximately 120 feet away from the project site.

Construction activities would increase existing noise levels at the adjacent land uses, but they would be temporary and intermittent. In addition, construction would not occur on Sundays and holidays, in compliance with the Santa Clara City Code, Section 9.10.230. Compared to existing ambient noise levels, projected noise level increase at the

residential area to the north due to the loudest construction activities would be as high as 19 dBA (depending on the activity occurring and the equipment being used at the time). The largest increase in noise corresponds to the use of the loudest construction equipment closest to the northwest boundary of the project site, that is, closest to the residential areas. When the construction activities move away from that boundary or when they occur in shielded areas, the projected increase in noise is expected to be much lower, especially when less noisy equipment is used, which is the majority of time. Even though the City of Santa Clara exempts construction noise sources from its prescribed noise level limit, to reduce the impact to less than significant, the project applicant proposes to implement the measures included in **PD NOI-1**. The measures described in **PD NOI-1** are among the most effective and practical methods used and would adequately reduce construction noise levels to less than significant. Therefore, potential noise effects related to construction would not result in a significant noise impact on the area's population, including the EJ population.

For normal operation, modeling was performed for daytime and nighttime scenarios. The daytime scenario assumes that all the continuous noise sources (that is, HVAC and substation) are running, in addition to testing of one backup generator. As generator testing would not be done during the night, the nighttime scenario was run for the same continuous noise sources as the daytime scenario, but no generator testing was included. Modeling results showed that with implementation of **PD NOI-2**, in both scenarios the operational noise levels would comply with the city's noise limits and would be below the existing daytime and nighttime ambient noise levels at the nearest residential area. Thus, the impacts would be 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 and housing includes the City of Santa Clara, staff considered the project's population and housing impacts on the EJ population living in this geographic area.

The potential for population and housing impacts is predominantly driven by the temporary influx of non-local 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

Less Than Significant Impact. Significant reductions in transportation options 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, as concluded in section **5.17 Transportation** all transportation impacts, including impacts to alternative transportation, would be less than significant, and therefore would cause less than significant impacts to EJ populations. Likewise, transportation impacts would not be disproportionate.

Utilities and System Services

Less Than Significant Impact. A disproportionate utilities and system services impact on an EJ population could occur if the project would contribute to or exacerbate the effects of cleanup sites, hazardous waste generators and facilities, and solid waste facilities.

Since the overall CalEnviroScreen score reflects the collective impacts of multiple pollutants and factors, staff examined the individual contributions to indicators as they relate to wastes addressed under utilities and system services. The wastes of concern in this analysis are those from construction and operational activities. The handling and disposal of each type of waste depends on the hazardous ranking of its constituent materials. Existing laws, ordinances, regulations, and standards ensure the desired handling and disposal of waste materials without potential public or environmental health impacts. The CalEnviroScreen scores for the disadvantaged community census tracts in a 6-mile radius of the project (see **Figure 5.21-1**) are presented in **Table 5.21-4** for each of the following environmental stressors that relate to waste management: cleanup sites, hazardous waste generators and facilities, and solid waste facilities. The percentile for each disadvantaged census tract reflects its relative ranking among all of California's census tracts. A disproportionate waste management impact on an EJ population could occur if project wastes impacted the disadvantaged community.

CalEnviroScreen assigns a score to each category of stressors. To assess the impact of a stressor on population within a census tract, the score is assigned a weighting factor that decreases with distance from the census tract. For stationery stressors, the weighting factor diminishes to zero for distances larger than 1,000 meters (0.6 mile). As **Figure 5.21-1** shows, all but one of the assessed census tracts are more than 1,000 meters away from the project. The only tract that is within 1,000 meters of the proposed project site is tract 6085505202. Therefore, this analysis focuses on that tract.

Cleanup Sites

This indicator is calculated by considering the number of cleanup sites including Superfund sites on the National Priorities List, the weight of each site, and the distance to the census tract. Sites undergoing cleanup actions by governmental authorities, or by property owners, have suffered environmental degradation due to presence of hazardous substances. Of primary concern is the potential for people to come in contact with these substances.

The percentile score in the cleanup sites indicator for the only census tract within 1,000 meters of the project site is 100 (see **Table 5.21-4**). The interpretation is that contamination threats due to the presence of cleanup sites in that census tract are among the highest of all tracts statewide. This is an indication that the communities within that tract are located alongside a high relative proportion of cleanup sites.

Past contamination at the project site would be remediated by the current owner in accordance with regulatory requirements that would ensure there would be no impacts to on- or off-site receptors. In addition, the project owner would have to comply with appropriate laws, ordinances, regulations, and standards that would require additional cleanup of contaminated soils and groundwater that might be encountered during construction and operation activities. Therefore, the project would not be expected to contribute significantly to effects from cleanup sites for the relevant census tract and for the general population.

Hazardous Waste Generators and Facilities

This indicator is calculated by considering the number of permitted treatment, storage and disposal facilities (TSDFs) or generators of hazardous waste, the weighting factor of each generator or site, and the distance to the census tract. Most hazardous waste must be transported from hazardous waste generators to permitted TSDFs by registered hazardous waste transporters. Most shipments must be accompanied by a hazardous waste manifest. There are widespread concerns for both human health and the environment from sites that serve for the processing and disposal of hazardous waste. Newer facilities are designed to prevent the contamination of air, water, and soil with hazardous material. However, even newer facilities may negatively affect perceptions of surrounding areas in ways that have economic, social, and health impacts.

The percentile score in the hazardous waste generators and facilities category for the only census tract within 1,000 meters of the project site is 99. The interpretation is that threats related to hazardous waste generation and facilities in this census tract is among the worst of all tracts statewide, meaning that the communities in that tract are located alongside sites with a high relative proportion of hazardous waste generators and facilities.

The project would not be expected to contribute significantly to hazardous waste generation or to the number or size of facilities handling hazardous waste processing.

Further, the project would be required to comply with appropriate laws, ordinances, regulations, and standards to control storage and disposal of hazardous waste during its construction and operation phases. The project would implement modern operational phase controls to prevent or reduce the generation of hazardous wastes and to dispose of them in a manner that would minimize impacts to the environment both during project construction and operation. The project's impacts related to hazardous waste generation and disposal would be reduced to less than significant for the relevant census tract and the general population.

Solid Waste Facilities

This indicator is calculated by considering the number of solid waste facilities including illegal sites, the weighting factor of each, and the distance to a census tract. Newer solid waste landfills are designed to prevent the contamination of air, water, and soil with hazardous materials. However, older sites that are out of compliance with current standards or illegal solid waste sites may degrade environmental conditions in the surrounding area and pose a risk of exposure. Other types of facilities, such as composting, treatment, and recycling facilities may raise concerns about odors, vermin, and increased traffic.

The percentile score in the solid waste facilities category for the only assessed census tract within 1,000 meters is 95 (see **Table 5.21-4**). The interpretation is that the number and type of facilities within or nearby this census tract is in the upper 10 percent of the census tracts in California. This also indicates that environmental deterioration due to the presence of solid waste facilities in that census tract is within the top 10 percent of tracts statewide.

Solid waste generated during construction and operation of the project would be segregated, where practical, for recycling, and disposed where there is adequate capacity for disposal of nonhazardous waste. Also, the project would be required to develop and implement plans that would ensure proper disposal of nonhazardous waste at appropriately licensed facilities. The project owner would use solid wastes sites or facilities that are verified to be in compliance with current laws, ordinances, regulations, and standards. In addition, there would be no increase of solid waste generators and facilities in the area due to project construction or operation because there is adequate space for disposal of waste from the project. Therefore, there would be no impact due to solid waste facilities that would disproportionately impact an EJ community in the relevant census tract.

Mandatory Findings of Significance

Less Than Significant. Staff analysis (for those areas that address EJ) concluded that the incremental effects of the project would be less than cumulatively considerable. Therefore, cumulative impacts would be less than significant for both the general population and the EJ population.

List of Preparers and Contributors

The following are a list of preparers and contributors to **Section 5.21 Environmental Justice**:

Ashley Gutierrez	General Environmental Justice information, CalEnviroScreen information, Environmental Justice screening, public outreach, CalEnviroScreen project screening, and Population and Housing.
Lisa Worrall	Mandatory Findings of Significance impact analysis
Mark Hamblin	Aesthetics impact analysis
Hui-An (Ann) Chu, Tao Jiang	Air Quality (public health) impact analysis
Gabriel Roark	Cultural and Tribal Cultural Resources impact analysis
Ryan Casebeer	Hazards and Hazardous Materials impact analysis
Mike Conway	Hydrology and Water Quality impact analysis
Jeanine Hinde	Land Use and Planning impact analysis
Abdel-Karim Abulaban	Noise and Utilities and Service Systems impact analyses
Ellen LeFevre	Transportation impact analysis

5.21.3 References

Alexis NE et al. 2010 - Alexis NE, Lay JC, Hazucha M, Harris B, Hernandez ML, Bromberg PA, et al. Low-level ozone exposure induces airways inflammation and modifies cell surface phenotypes in healthy humans. Inhal Toxicol 22(7):593-600. Available online at: https://www.ncbi.nlm.nih.gov/pubmed/20384440

Burnett RT et al. 2001 - Burnett RT, Smith-Doiron M, Stieb D, Raizenne ME, Brook JR, et al. Association between Ozone and Hospitalization for Acute Respiratory Diseases in Children Less than 2 Years of Age. American Journal of Epidemiology 153(5):444-452. Available online at: https://academic.oup.com/aje/article/153/5/444/149769

CalEPA 2017 - California Environmental Protection Agency (Cal/EPA). *Designation of Disadvantaged Communities Pursuant to Senate Bill 535 (De Leon),* April 2017. Available online at: https://calepa.ca.gov/wp-content/uploads/sites/6/2017/04/SB-535-Designation-Final.pdf

CDE 2018 - California Department of Education (CDE). California Department of Education Educational Demographics Unit, Data Quest, Selected District Level Data - 4369674--Santa Clara Unified for the year 2017-18. Free or Reduced Price Meals. Available online at: https://dq.cde.ca.gov/dataquest/Cbeds2.asp?FreeLunch=on&cChoice=CoProf2&cYear=2017-18&TheCounty=43%2CSANTA%5ECLARA&cLevel=County&cTopic=Profile&myTimeFrame=S&submit1=Submit

Fann N et al. 2012 - Fann N, Lamson AD, Anenberg SC, Wesson K, Risley D, Hubbell BJ, Estimating the National Public Health Burden Associated with Exposure to Ambient PM2.5 and Ozone. Risk Analysis 32(1):81- 95. Available online at: https://www.ncbi.nlm.nih.gov/pubmed/21627672

Lin S et al. 2008 - Lin S, Liu X, Le, LH, Hwang, S, Chronic Exposure to Ambient Ozone and Asthma Hospital Admissions among Children. Environ Health Perspect 116(12):1725-1730. Available online at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2599770/

Medina-Ramón M, Schwartz J 2008 - Who is more vulnerable to die from ozone air pollution? Epidemiology 19(5):672-9. Available online at: https://www.ncbi.nlm.nih.gov/pubmed/18480732

OEHHA 2017 - California Environmental Protection Agency's Office of Environmental Health Hazzard and Assessment (OEHHA). California Communities Environmental Health Screening Tool, Version. 3.0 (CalEnviroScreen 3.0), Guidance and Screening Tool, January 2017. Available online at: http://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

OEHHA 2018 - California Environmental Protection Agency's Office of Environmental Health Hazzard and Assessment (OEHHA). ArcGIS Geodatabase. CEC3Gdb.zip. Updated June 2018. Accessed on: March 4, 2020. Available online at: https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

U.S. Census 2010 - United States Census Bureau (U.S. Census). QT-PL-Race, Hispanic or Latino, Age, and Housing Occupancy: 2010 – Census Redistricting Data (Public Law 94-171) Summary File, Tables P1, P2, P3, P4, H1. Available online at: http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

U.S. EPA 2015 - United States Environmental Protection Agency (U.S. EPA). Guidance on Considering Environmental Justice During the Development of Regulatory Actions, May 2015. Available online at: https://www.epa.gov/environmentaljustice/guidance-considering-environmental-justice-during-development-action

Zanobetti A, Schwartz J 2011 - Ozone and survival in four cohorts with potentially predisposing diseases. Am J Respir Crit Care Med 184(7):836-41. Available online at: https://www.ncbi.nlm.nih.gov/pubmed/21700916

Section 6

Authors and Reviewers

6. Authors and Reviewers

Lead Agency—California Energy Commission

Technical Staff / Section Authors

Mark Hamblin (Aesthetics)
Jeanine Hinde (Agriculture/Forestry, Land Use and Planning)
Tao Jiang, Ann Chu (Air Quality, Greenhouse Gas)
Tia Taylor (Biology)
Gabriel Roark, Cameron Travis (Cultural and Tribal Cultural Resources)
Laiping Ng (Energy/Energy Resources)
Shahab Khoshmashrab (Energy/Energy Resources, Noise)
Karim Abulaban (Energy/Energy Resources, Noise, Utilities/Service Systems)
Garry Maurath (Geology/Soils, Minerals)
Ryan Casebeer (Hazards/Hazardous Materials)
Mike Conway (Hydrology/Water Resources, Wildfire)
Ellen LeFevre, Andrea Koch (Transportation)
Scott Polaske (Mandatory Findings)
Ashley Gutierrez, Lisa Worrall (Population/Housing, Public Services, Recreation, Environmental Justice)

Contractor Assistance

Brewster Birdsall, Aspen (Air Quality)

Supervision and Management

Gerry Bemis, Air Quality Unit Supervisor
Jon Hilliard, Biology Unit Supervisor
Thomas Gates, Cultural Unit Supervisor
Steve Kerr, Siting and CEQA Review Unit Supervisor
Mark Hesters, Energy Reliability Unit Supervisor, Energy Assessments Division
Eric Knight, Environmental Office Manager
Geoff Lesh, Engineering Office Manager
Shawn Pittard, Deputy Director—Siting, Transmission and Environmental Protection

Project Management/Legal

Leonidas Payne, Project Manager
Lisa DeCarlo, Staff Counsel
Michael Murza, Staff Counsel

Appendix A

Project's Jurisdictional and Generating Capacity Analysis

Appendix A: Project's Jurisdictional and Generating Capacity Analysis

The Mission College Data Center (MCDC) would include 43 diesel-fired standby generators (gensets) that would provide emergency backup power supply for the MCDC project only during interruptions of electric service from Silicon Valley Power (SVP) or during an emergency. The gensets would be electrically isolated from the SVP electrical transmission grid with no means to deliver electricity offsite of MCDC.

Each generator would have a nameplate output capacity of 2.5 megawatts (MW) and continuous steady-state output capacity of 1.75 MW. The maximum total MCDC facility load requirements would not exceed 78.1 MW. This includes the critical Information Technology (IT) load of the servers and server bays, the cooling load of the IT servers and bays, and the facility's ancillary electrical and telecommunications equipment operating loads to support the data customers and campus.

The California Energy Commission is responsible for reviewing, and ultimately approving or denying, all applications for thermal electric power plants, 50 MW and greater, proposed for construction in California. (Pub. Resources Code, § 25500.) The Energy Commission has a regulatory process, referred to as the Small Power Plant Exemption (SPPE) process, which allows applicants with facilities between 50 and 100 MW to obtain an exemption from the Energy Commission's jurisdiction and proceed with local permitting rather than requiring an Energy Commission certificate. The Energy Commission can grant an exemption if it finds that the proposed facility would not create a substantial adverse impact on the environment or energy resources. (See Pub. Resources Code, § 25541.)

Staff calculated a net deliverable or useable electricity capacity of more than 50 MW and less than 100 MW from the MCDC backup generation facility, qualifying it for a Small Power Plant Exemption under the capacity criterion. The following provides a summary of the factors supporting this conclusion, with a more detailed discussion of these factors following after.

1. The diesel-fueled reciprocating engine generators use a thermal energy source.
2. The gensets and the associated MCDC that they would support would all be located on a common property under common ownership sharing common utilities and the 43 gensets should be aggregated and considered as one thermal power plant facility with a generation capacity of greater than 50 MW.
3. While MCDC has an apparent installed generation capacity greater than 100 MW (43 gensets, each with 2.5 MW peak capacity), the "extra" MW installed are redundant and not able to operate unless other generating units fail to operate, i.e., there are physical constraints that prevent them from operating.
4. Jurisdictional analyses are based on the net MWs that can be delivered for "use" (i.e., to a data center facility or the electricity grid), not the gross or nameplate rating. Unlike a traditional power plant supplying electricity to the grid, for a data center the

maximum load being served is determinative and not the combined net capacity of the installed generators. Here, the maximum facility-wide MCDC load requirement would be 78.1 MW.

5. The backup generators would be exclusively connected to the MCDC buildings and would not be capable of delivering electricity to any other user or to the electrical transmission grid. The proposed redundancies built into the design of the facility are to ensure performance reliability, not to generate and supply the MCDC facility with more than 78.1 MW of electricity.
6. The restriction on the facility's load demand is hardwired through various control systems. It would be physically impossible for the gensets to generate more electricity than the buildings require. Excess electricity would damage components or at a minimum, isolate the MCDC loads from the backup generators.

In order to make a jurisdictional recommendation, staff assessed the generating capacity of the power plant site, using the following:

1. MCDC is a thermal power plant under the Energy Commission's definition.

The Warren-Alquist Act defines a thermal power plant "as any stationary or floating electrical generating facility using any source of thermal energy, with a generating capacity of 50 megawatts or more, and any facilities appurtenant thereto." (Pub. Resources Code, § 25120.) The MCDC is made up of gensets that use diesel fossil-fueled engines to convert the thermal energy in the diesel fuel[1] into electricity from a rotating generator, thus - each genset is an electrical generating device that uses a source of thermal energy. The facility proposes to use 43 such gensets to service MCDC.

The 43 gensets, and the associated MCDC that they would support, would all be located on a common property under common ownership sharing common utilities. Most of the gensets would operate to provide backup electricity to MCDC when its connection to the grid is lost; four out of the 43 gensets would be installed for the purpose of redundancy, to operate to back up the initial or grid back up gensets. However, any genset can function either as a back up to the grid or a back up to the grid back up gensets, so there is not a functional difference in the type of engine or generator between each genset. All of the backup gensets at the MCDC would share a common trigger for operation during an emergency: the transfer switch isolating the MCDC from the grid.

2. Title 20, California Code of Regulations section 2003 does not control.

The MCDC would be installed during the initial construction of the project by the project owner, but there is no specific timeline proposed for when the MCDC will need the full capacity of the facility; the exact timing of individual leases that fill server bay space is subject to the market decisions of disparate customers. Therefore, it may be years before the MCDC is at full load. Nevertheless, for purposes of this analysis, staff assumes full

1 Diesel fuel is composed of a mixture of hydrocarbons, containing chemical energy. When ignited, this chemical energy is converted to thermal energy.

load will eventually be reached.

Title 20, California Code of Regulations, section 2003 specifies how the Energy Commission calculates "generating capacity" for jurisdictional determinations, including the 50 MW threshold for the definition of a thermal power plant under section 25120. However, section 2003, which uses nameplate capacity in addition to consideration of other factors, only addresses steam and combustion turbines, not diesel-fueled gensets as used in the MCDC, and is therefore not controlling here. There are also other reasons to conclude that simply focusing on nameplate capacity here is not appropriate.

For a typical power plant, outside the factors identified in section 2003, there is almost no limit on what might be generated and provided to the grid, so the approach outlined in that provision identifies the potential maximum generating capacity and is reasonable for those facilities. This is not the case with data centers, where producing electricity in excess of what the data center requires would be economically wasteful and likely result in damage to the facility.

In traditional turbine-based power plants, parasitic loads (fans, pumps, and heaters) are external to the turbine; the generating capacity is the total net MWs at the switchyard bus, less parasitic loads. If the grid "demands" more, the power plant cannot deliver more electricity unless it burns fuel at a higher rate or reduces parasitic loads. Even then, equipment would have to have the physical capacity to burn more fuel and convert thermal energy into rotational energy, and then operate the generator at a higher output. The calculations assume normal conditions, where generation would be under average operating conditions, and assumes the onsite loads (often called parasitic loads) are also average (e.g., a filter backwash pumping load would not be included if that operation only occurs monthly or annually). Typically, at a traditional power plant, no redundant generating equipment is installed.[2] Generating capacity is determined based on the net capacity of all of the generators that are proposed to be installed because they are to be connected to the grid where there is almost no limitation on the amount of MWs the grid can "take" from the facility.

Typically, backup generating facilities serving data centers are not physically able to send excess electricity to the grid and all electricity generated must be absorbed by the data center itself. Data centers are designed with precise loads, assuming full build-out, and providing electricity in excess of these loads is not only economically wasteful (burning fuel for no benefit or reason), but can result in damage to the sensitive components located inside these data centers, as well as to the heating, ventilation, air conditioning (HVAC) unit and other systems serving the buildings. Therefore, for purposes of evaluating the capacity of backup generating facilities serving data centers, it is

2 At modern power plants, some equipment design includes 50 to 100 percent redundancy. The redundant equipment is generally limited to certain critical components like transformers, which are often custom items with long lead times for fabrication, or boiler water feed pumps, which are intended to protect the steam boiler components from damage from too much heat if circulating water flow is interrupted.

reasonable for staff to consider the controlling factor in how much electricity is capable of being generated to be building load.

3. Data Centers are analyzed differently than conventional power plant facilities for a number of reasons.

To determine the net generating capacity of a collection of backup gensets[3] for data centers, the approach is slightly different but consistent with that used on a traditional power plant. The differences are: 1) the end user is the building and data servers, not the grid, and 2) extra gensets or generating capacity are installed to provide electricity not only for building and data server loads, but to provide redundancy that achieves a statistical reliability that can be marketed to data customers.

Staff's approach is consistent with widely practiced standards. For example, ASHRAE's (American Society of Heating, Refrigerating and Air-Conditioning Engineers) Energy Standards for Data Centers do not use the nameplate or gross capacity, but the net generating capacity of data centers, or the actual cooling and IT server loads.[4] These ASHRAE standards are performance-based as opposed to prescriptive standards, advocating the position that determination of load requirements should be based on project-specific operational characteristics.

Staff's approach to calculating generating capacity has also been devised based on the International Organization for Standardization (ISO), which sets standards for different industries including the energy industry. The ISO standards are widely accepted by, and used throughout, the energy industry. Consistent with staff's method, the ISO specifies that generating capacity should be the net capacity at average annual ambient conditions.[5]

In the case of MCDC, the load served acts as a limit to the generation levels from the gensets in the backup generating facility. This factor is not present in a capacity generation determination for a typical power plant feeding to the grid because the grid does not act in the same way the "MCDC grid" does. If the breakers between the MCDC building and the gensets were to trip due to excess generation, the data center would be isolated from the backup generators, the servers and building cooling would be forced to shut down. This subverts the intention of using the backup generators to maintain reliable and high quality electricity. Excess electricity would damage components or at a minimum, isolate the load from the backup generators. If building cooling load were to increase (e.g., the day gets warmer), the genset(s) would open the engine fuel throttle

3 Backup generators, by definition, generally have the following characteristics: reliable starts, fast starting to full load, cheap to maintain as they sit idle most of the time, use cheap and stable fuel as the fuel sits unused most of the time, and use high-density fuels to limit storage volumes onsite so the project can operate if "islanded."

4 American National Standards Institute (ANSI)/ASHRAE Standard 90.4-2016, www.ashrae.org.

5 ISO 3046-1 Reciprocating Internal Combustion Engines – Performance, www.iso.org/standards.

to increase generation output and match demand but would still not exceed the combined 78.1 MW IT and building demand.

4. MCDC's capacity will not exceed 78.1 MW.

While no more than 39 backup generators would need to operate at an output of 2.0 MW to reach the facility's maximum output requirement of 78.1 MW, the exact number of backup generators that could operate in an emergency depends on actual cooling and IT server loads, and the reliability and performance of the backup generators. In no case would the combined output of backup generators exceed the prescribed maximum load of 78.1 MW. As explained above, it would be physically impossible for the gensets to generate more electricity than the buildings require. Non-operating backup generators would be reserved as redundant generators, ready to start if other generators fail. For the purposes of testing and maintenance, only one generator would operate at any given time.

The maximum demand of 78.1 MW would be fixed by the specification and installation of electrical buses and panels, switchyard, and breakers that would have an upper electrical capacity limit. The cooling equipment's maximum demand would be fixed by the specification and installation of equipment that have an upper physical limit of cooling capacity, and would include some redundant cooling equipment. Redundant equipment could only be operated if a primary component fails, and could not be operated in addition to the primary components, which would damage the data center. The data center would be served from the grid or from the emergency gensets with electricity that matches and does not exceed demand for operations of the data server bays and buildings.

The heat rejected by the IT servers has to be removed from each server bay or else the server equipment and data would be damaged. Any attempt to add more servers to a bay would result in direct, immediate and dire consequences because the building and equipment would have been designed for an upper critical IT load. It is important to note that the maximum combined building load of 78.1 MW is based on 100 percent critical IT load with maximum cooling on the hottest day. In actuality, the critical IT load and related cooling load would typically be less than this worst-case scenario.

In recent years, the power and energy industries have advanced in terms of software development and hardwired digital control to permanently limit generation capacity. The generation by the MCDC backup generation facility would be regulated by each building and each bay in that building. Software would be used to operate the gensets in a manner that meets the bay and building demand. If the demand decreases (i.e., less mechanical load for cooling, etc.), the generator sets would automatically adjust the loading and corresponding electrical output. If a generator or the software were to malfunction and attempt to generate more electricity than the building demand, individual electrical generator controllers would shut down.

For the maximum generating capacity to increase, the project would have to be redesigned to physically fit more servers in a server bay or add more bays. The project

owner would have to address the unplanned increase in electricity demand for normal operations, because the existing electrical equipment would not be sized for the higher electricity throughput. Additionally, the project owner would have to install additional cooling equipment units to address the increased heat rejected by the server bays and buildings, and install additional redundant cooling equipment, additional uninterruptable power supply (UPS) battery units, and additional gensets to maintain the level of backup and reliability to match the new higher levels of load. This is an unlikely outcome because such changes are not trivial and would result in a cascade of design and physical changes to the facility.

When the MCDC is at full load, its worst-case day combined IT and building load[6] would be 78.1 MW. The project proposes generators that total more than this amount for purposes of redundancy. The combined generating capacity of the installed operational gensets is autonomously determined by the electrical equipment in the MCDC server bays and building equipment in use at the time of an emergency. The MCDC has been designed with two generation yards, or lineups, one for each IT building. One lineup would consist of 23 gensets, two of which would be redundant, and the other lineup would consist of 20 gensets, two of which would be redundant. The emergency operation of each lineup is fully automated. Once the MCDC loses connection to the local grid, the transfer switch isolates the MCDC from the local SVP grid and all non-redundant (primary) gensets assigned to a server bay set initiate startup. As the gensets start, synchronize, and take up load associated with their server bays and building equipment, the UPS system supplies up to four minutes[7] of power to smoothly transition the MCDC customer's data servers from the grid to the emergency gensets (Oppidan 2019a, Section 2.2.4.3). If a genset or two fail to start or synchronize, the remaining genset initiates a startup and the other gensets in the server bay set ramp up to higher output levels. The output of the genset assigned to a server bay set match (meet but cannot exceed) the MCDC data customer's IT demand in the respective server bay and also the server bay's HVAC demand. The combined output of the server bay set is autonomously determined by the electrical equipment in the MCDC server bays and building equipment.

Combined output would be limited by sizing the electricity handling equipment that would throttle transfer capacity to no more than 78.1 MW, which would prevent damage to IT servers and building equipment. Therefore, it would be physically impossible for the gensets to generate more electricity than what the data center would use, or more than 78.1 MW.

6 Based on the hottest, most humid day of the year and with all IT servers in use at their full usage rate

7 The gensets are expected to be on and synchronized within a minute or so, but the UPS can supply up to four minutes of power at 90 percent full-load UPS to ensure a complete transition from the grid to the emergency gensets.

Appendix B

Silicon Valley Power System Details

Appendix B: Silicon Valley Power System Details

Energy Commission staff provided a series of questions to Silicon Valley Power (SVP) designed to understand when, why, and for how long data center backup generators would need to operate for any purpose, including public safety power shutoffs (PSPSs). The readiness testing or maintenance of the backup generators at data centers in the SVP service area are typically well described and understood. The questions to, and responses from, SVP were related to emergency operations of backup generators for data centers proposals under review by the CEC that would be in SVP service territory, if built. The information in the emails and responses provided may contain references to data centers other than the Mission College Data Center (MCDC) being reviewed in this proceeding that in no way diminishes the value and applicability of the SVP and data center information to the MCDC. SVP does not consider any one of the 60 kV loops more or less reliable than the other loops it locates its data center customers. The overall SVP system as well as historical outage data provided below would apply to any data centers, including the proposed Mission College, Sequoia, and Walsh data centers connecting to the SVP 60 kilovolt (kV) system.

This Appendix includes the questions sent by Mark Hesters, Senior Electrical Engineer, CEC, and responses by Kevin Kolnowski, Electric Utility Chief Operating Officer, SVP. Other versions of this Appendix B appearing in other proceeding docket files included Reports of Conversation forms that were not relevant to the information from SVP or to MCDC. What is provided below is the text and figures related to the emails exchanged by Hesters and Kolnowski.

1. August 2, 2019 email response from Kevin Kolnowski, Electric Utility Chief Operating Officer, Silicon Valley Power to questions sent July 2, 2019 and Mark Hesters, Senior Electrical Engineer, California Energy Commission, containing:
    a. A written response to staff's questions (including a table listing 10 years of faults on the SVP 60 kV system),
    b. A one-line diagram of the proposed substation for the Laurelwood DC,
    c. A schematic diagram of the SVP 230 kV, 115 kV and 60 kV transmission system,
    d. A list of the customers connected to each of the five 60 kV loops in the SVP system,
    e. Silicon Valley Power System Map.

2. August 8, 2019 email response from Kevin Kolnowski, Electric Utility Chief Operating Officer, Silicon Valley Power to questions sent August 5, 2019 by Mark Hesters, Senior Electrical Engineer, California Energy Commission.

3. January 17, 2020 email response from Kevin Kolnowski, Electric Utility Chief Operating Officer, Silicon Valley Power to questions by Mark Hesters, Senior Electrical Engineer, California Energy Commission.

August 2, 2019 email response from Kevin Kolnowski, Electric Utility Chief Operating Officer, Silicon Valley Power to Mark Hesters, Senior Electrical Engineer, California Energy Commission.

Outlined below is information related to MECP1's [19-SPPE-01 Laurelwood project owner] proposed substation located in the City of Santa Clara's Silicon Valley Power's service territory. The proposed substation will be located at 2201 Laurelwood Road under SVP's nomenclature, San Tomas Junction. This facility is designated as a Junction as the customer has elected to receive electric service from SVP at the 60,000V level.

Staff Questions in Black, SVP Responses in Blue

1. Please provide for the 60 kV loop on the SVP system that will serve the MECP1 data center:

    a. A physical description

    San Tomas Junction is a three-50MVA (60kV:12.47kV) transformer bank substation on SVP's 60kv Northwest Loop. It is located between SVP's two 60kV Substations, Central (CEN) and Juliette (JUL). Each Transformer has a proposed rating of 30/40/50 MVA. The final buildout of San Tomas Junction will have a capability of 99 MVA, with 150 MVA of installed capacity which increases its reliability. The customers Single Line Diagram (SLD) "LAUREL SITE SINGLE LINE DIAGRAM SIMPLIFIED" is attached.

    b. The interconnection points to SVP service

    The Interconnection points to SVP will be the three high-side transformer gang switches. SVP's nomenclature will be drafted as GS36, GS26, and GS16.

    c. The breakers and isolation devices and use protocols

    There are four 60kV Breakers at San Tomas Junction shown on customer SLD, CB1, CB2, CB3 and CB4 which will enable various isolation schemes to insure a transformer bank can be isolated while the other two transformers remain in service. The system is designed such that one of the transformers can be taken out of service for repairs or maintenance while the other two can fully support customer load.

    d. A list of other connected loads and type of industrial customers

    See attached Excel Spreadsheet, Loop Customer and Loading Peak 8-1-19.xlsx

    e. A written description of the redundant features that allow the system to provide continuous service during maintenance and fault conditions

    SVP's Northwest Loop is fed from Northern Receiving Station (NRS) and

Scott Receiving Station (SRS). Both NRS and SRS are 115/60 kV receiving stations. NRS has five 115kV lines connected to the bulk electric system, two are connected to SRS, two are connected to PG&E's Newark Substation (NEW), and one is connected to PG&E's Nortech Substation (NOR). NRS also has one 230kV line connected to SVP's Switching Station (SSS) which is also connected to the greater bulk electric system (BES). SRS is connected to SVP's Duane Substation (DUA). The DUA Substation is connected to the City's 147 MW Donald Von Raesfeld Combined Cycle Power Plant. Both NRS and SRS have two 115/60kV transformers for redundancy and reliability. This arrangement allows for a high reliability electrical system.

The 60kV loop is designed to maintain power to all customers when any line on the loop is out of service due to either maintenance or an unplanned outage. Each Receiving Station on the loop ends, NRS and SRS, is capable of delivering power to the entire loop. The full redundancy design of the system allows any line segment on the loop to be taken out of service for regular maintenance activities without causing a service interruption to any customers. Additionally, the protection systems on the loop are designed to detect fault conditions and isolate the fault to a single line segment. The isolation of the fault allows for continuous service for all customers during fault conditions.

As discussed above, San Tomas Junction will have three 30/40/50 MVA transformers. The maximum load being requested by the customer is 99 MVA. With 150MVA of transformers, one transformer can be removed from service for maintenance and the load can be provided by the remaining two transformers.

See attached SVP Network Diagram 082319 MECP1 San Tomas Junction (STJ).pdf.

2. Please provide a description of the SVP system in general and the other 60 kV loops that would serve data centers.

   f. Could you provide a one-line diagram and a "*.shp" file of the 60 kV and above lines serving the Silicon Valley Power System? Would you have any concerns with us using either of these in a public document?

      Refer to SVP CA Energy Map 082319 MECP1 San Tomas Junction (STJ).pdf and SVP Network Diagram 082319 MECP1 San Tomas Junction (STJ).pdf.

   g. Are each of the 60 kV loops designed similarly or do some of them have features that make them more or less reliable than the others?

      They are all designed similarly with the same redundancy/reliability philosophy.

3. Please describe any outages or service interruptions on the 60 kV systems that will serve the proposed data centers:

   h. How many 60 kV double looped lines serve data centers in SVP, and how many data centers are on each?

      The City currently has five 60kV Loops. They are as follows:

      - East Loop
      - Northeast Loop
      - Northwest Loop
      - Center Loop
      - South Loop

      Customer location per loop is provided in Question 1 d. above.

   i. What is the frequency of 60 kV double-looped lines having a "double outage" that would require use of backup generators?

      Extremely Rare. There was only one outage between years 2009 current 2019 where SVP lost both 60kV feeds into a substation. The total duration of the outage was 7 hours and 23 min for the outage that occurred on May 28th, 2016 at 9:28 PM.

      A balloon released by an individual made contact with the 60kV line between the Northwestern Substation (NWN) and the Zeno Substation (ZEN) at pole NWZ4. The balloon contact caused a pole fire and the bottom phase, bottom insulator and guy wire burned. The circuit breaker at ZEN substation tripped properly, isolating the fault from the ZEN substation and keeping the line from the ZEN substation to the Kiefer Receiving Station energized.

      However, on the NWN Substation side, the circuit breaker failed to trip due to a faulty direct current (DC) voltage source which is required for the breaker tripping coil.

      Once this breaker failed to open, due to the directional nature of the fault, the fault was picked up at the Scott Receiving Station (SRS) which caused the section of the loop from the ZEN to SRS to be without power. This included the NWN Substation and the Fairview (FVR) substation. Since this was an unusual event, SVP spent the required time determining the root cause and inspecting the system prior to re-energization.

   j. How long were any outages and what were their causes?

      60kV outage data since 2009 is in the below chart (10 years of data). The items highlighted in yellow indicate that there was some kind of fault associated with the outage. The items highlighted in blue is when we had

customers out of power as a result. The non- highlighted items are where an outage was taken to correct an observed situation.

From 2009 through current 2019 there have been:

1. 15-60kV impacted outages due to faults.
2. 4- 60 kV impacted outages that caused customers to be out of power. Only the 12/2/16 outage and 5/28/16 involved data centers.
3. 31- 60kV total outages
4. The average 60kv outage lasts for 2.75 hours

Date	Line(s)	Cause	Duration	Customers out of power
3/30/19	URA-WAL	Bird @ UW43	1 Hour 46 Min	0
11/22/18	HOM-SER	Pole Fire HS9 (force out)	1 Hour 27 Min	0
7/5/18	SER-HOM	Force out to remove balloons	9 Min	0
5/5/18	SER-HOM	Force out to remove balloons	11 Min	0
9/1/17	AGN-NAJ	Force out to cut trees	1 hour 5 min	0
8/8/17	URA-ZEN	Force out to remove balloons	20 Min	0
5/25/17	SRS-FRV	Tripped during SCADA commissioning	1 Min	0
5/8/17	NWN-ZEN	Force out to remove bird	50 Min	0
4/29/17	SRS-HOM	Force out to remove balloons	2 hours 22 min	0
03/20/17	JUL-CEN	Third Party got into 60kV	9 hours 55 min	0
01/22/17	SER-BRO	Tree in wires	3 hours 31 min	0
01/22/17	NAJ-PLM	A phase contact guy wire when winds pick up	1 hour 47 min	0
01/19/17	KRS-PLM	Palm frond between phases	41 min	0
01/18/17	NAJ-PLM	A phase contact guy wire when winds pick up	1 Hour 44 min	0
12/02/16	RAY T1 & T2	Dropped both transformers during restoration switching due to relay not reset	12 minutes	257
09/06/16	SRS-CEN	Bird Contact	40 Min	0
06/30/16	WAL-FIB	Bird nest contact	12 hours and 4 min	0
5/28/16	SRS-FRV-NWN-ZEN	Balloons in line and breaker fail	7 hours 23 min	28
02/17/16	SRS-FRV	Palm tree with fire	7 hours	0
11/18/15	SER-BRO	Arcing wires forced	2 hours 59 min	0
11/16/15	SER-BRO	Rotten Pole- forced	22 hours 32 min	0
11/09/15	JUL CB32	Possible lightning	53 min	0
10/29/15	SER-BRO	Roller arcing-forced	3 hours 33 min	0
08/12/15	BRO-DCJ, BRO T1	Squirrel on CB100	3 hours 55 min	2155
06/24/15	CCA CB22	Bad JMUX card	3 hours 23 min	0
05/30/15	SER-BRO	No cause found	3 hours 12 min	0
03/31/15	BRO-DCJ 12KV BUS 1 & 2	Squirrel across 12kv bus tie	3 hours 26 min	2927
01/28/15	Mission CB12	Shorted control cable	6 hours 29 min	0
04/24/14	DCJ CB42	Tripped during relay work. BF wired as TT	1 Hour 30 Min	0
10/14/13	URA_WAL	Sheared Hydrant hit 60kV above	2 hours 26 min	0
12/06/12	Jul CB 32	Tripped due to cabinet vibration	2 min	0

k. Have there been any changes to the SVP system that would prevent these types of outages from occurring in the future?

Every outage is analyzed for root cause. Most of the outages that occur on the 60kV system are outside SVP's control, e.g. Mylar balloon, squirrels or animals, car accidents, and similar events. If the outage is suspected to be caused by a failure of the intended protection scheme or equipment, then further analysis is performed and appropriate changes are implemented to minimize impact of future outages. After the outage in May, 2016, SVP performed additional circuit breaker testing and DC wire checks to maintain the reliability of its system.

l. Given the large number of data centers with backup generators being developed in the SVP service area, would future outages likely affect more than one data center or are there elements of the SVP system design that might limit the impact of transmission outages?

Adding more data centers on the 60kV looped system would not make it more or less likely that an outage will occur. A "double outage," which has occurred only once in the last ten years, has the potential to cause multiple data centers to go to back up generators depending on the locations of both line segments that are out of service.

m. Are there data center customers served by SVP (ie, legacy data centers) that are not on the 60kV loops? How are they served and what are the expected service outage types and rates?

No, ALL data center customers are inherently part of our 60kV loop. The voltage level these data center customers are on our 12kV distribution system, which power is provided from our 60kV substations.

4. During the proceeding for the McClaren Backup Generating Facility, the project owner described a 5/29/2016 outage at their Vantage Santa Clara Campus. The project owner provided information that six backup generators operated during that outage; of those, two operated for 7 hours while four others operated approximately 19 hours.

a. What was the reason for the outage?

Balloons made contact with the NWN-ZEN 60kV Line at Pole NWZ4. Original fault was A Phase and GRD due to contact with the Guy wire. NWN CB 32 failed to trip due to a bad DC power source to the breaker trip coil. FRV CB12 tripped as a result of NWN CB32 not tripping. FRV CB42 and SRS CB572 also tripped due to 3 phase differential fault that occurred which is believed to have been caused by the amount of time the A phase and ground fault lasted.

b. How long did it last for the Vantage customer? For other customers on that loop?

The outage occurred on 5/28/2019 at 2128. On 5/29/19 @ 0429- Fairview was restored, @ 0434 NWN 60kV bus restored. The system outage was 7 hours and 23 minutes. We are not privileged to the information as to why the data center may have chosen to continue to operate on their back-up generators.

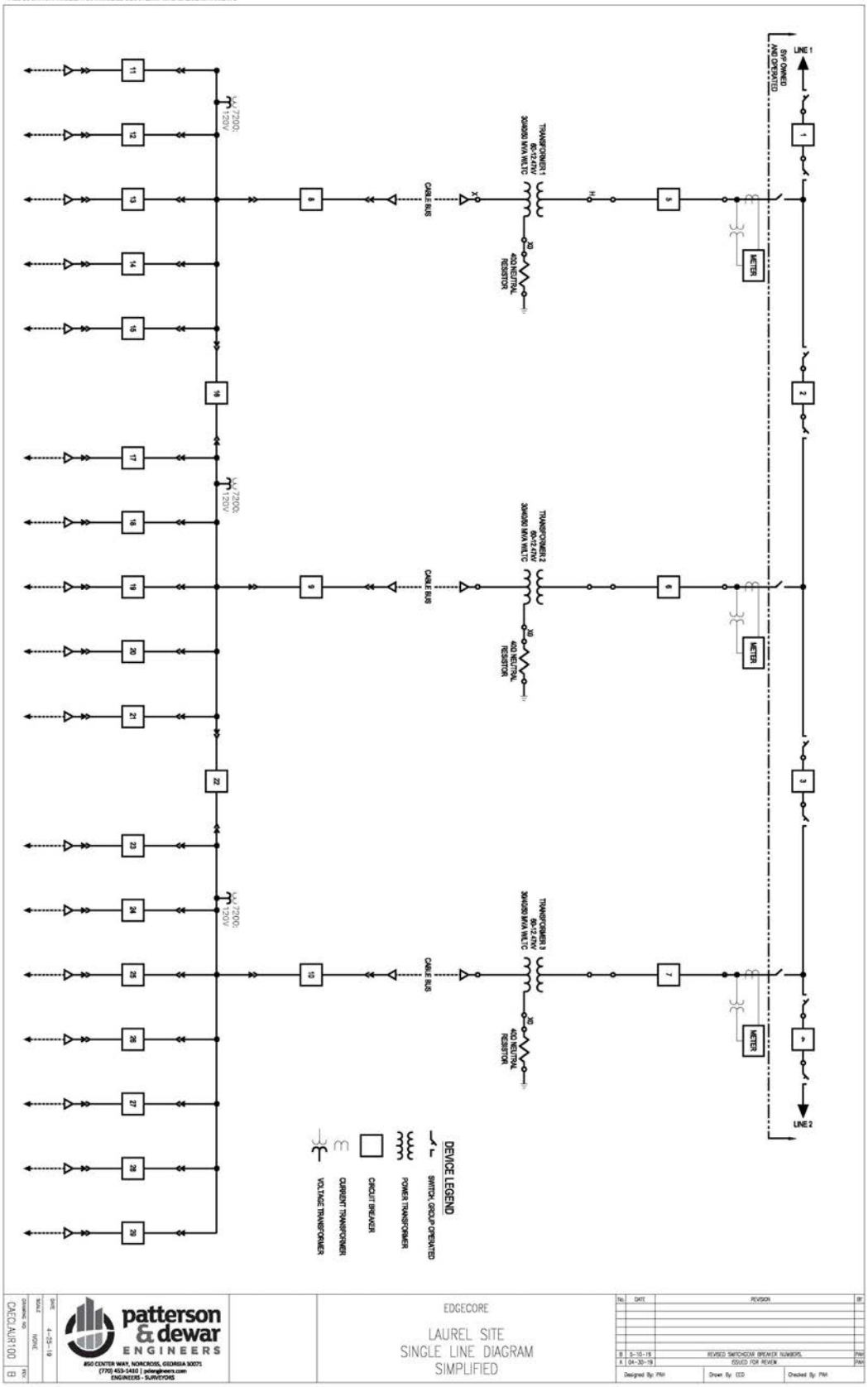
c. Is the anything about the location or interconnection of the proposed data centers that protect against a similar outage?

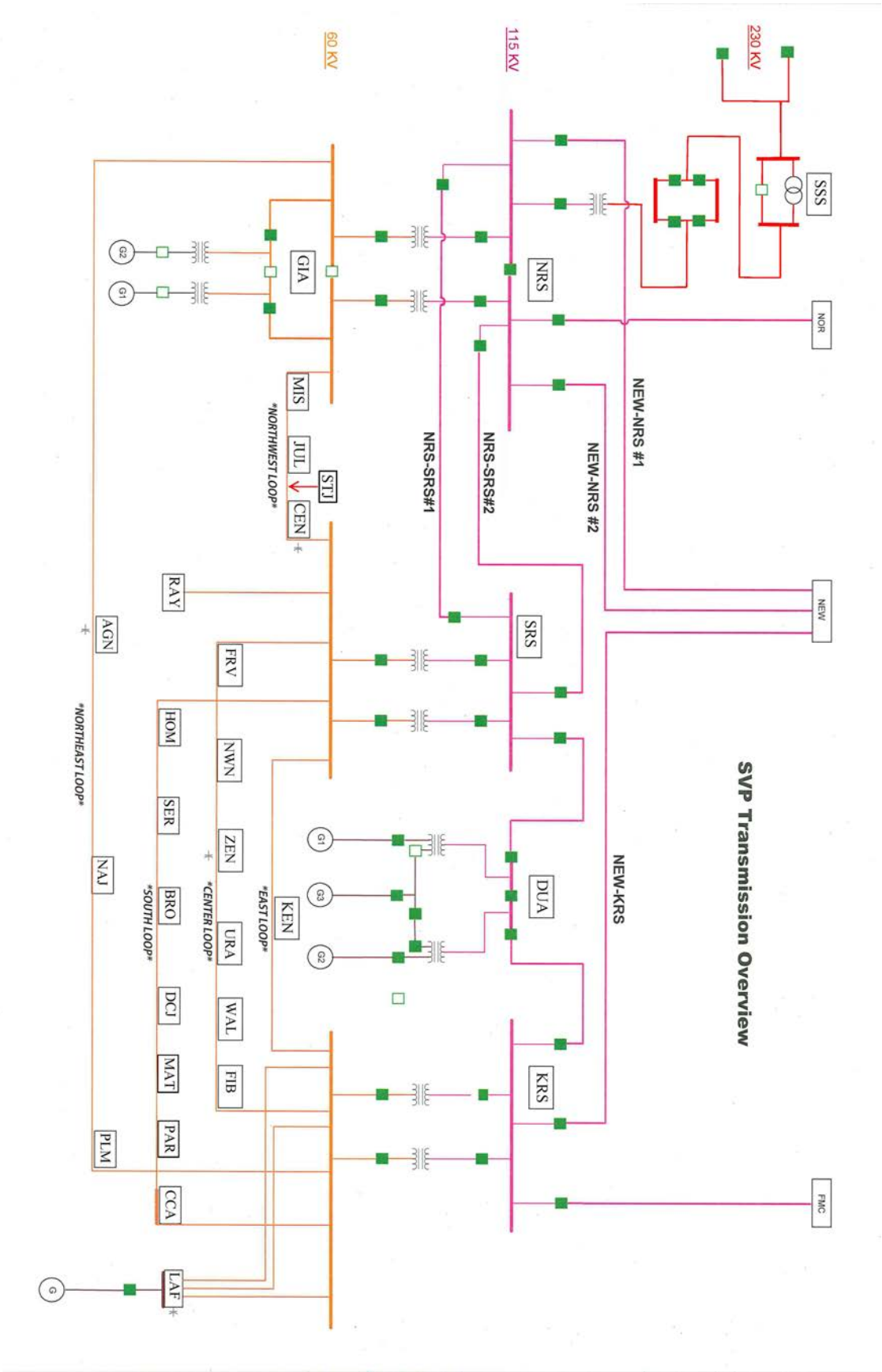
No difference with this location.

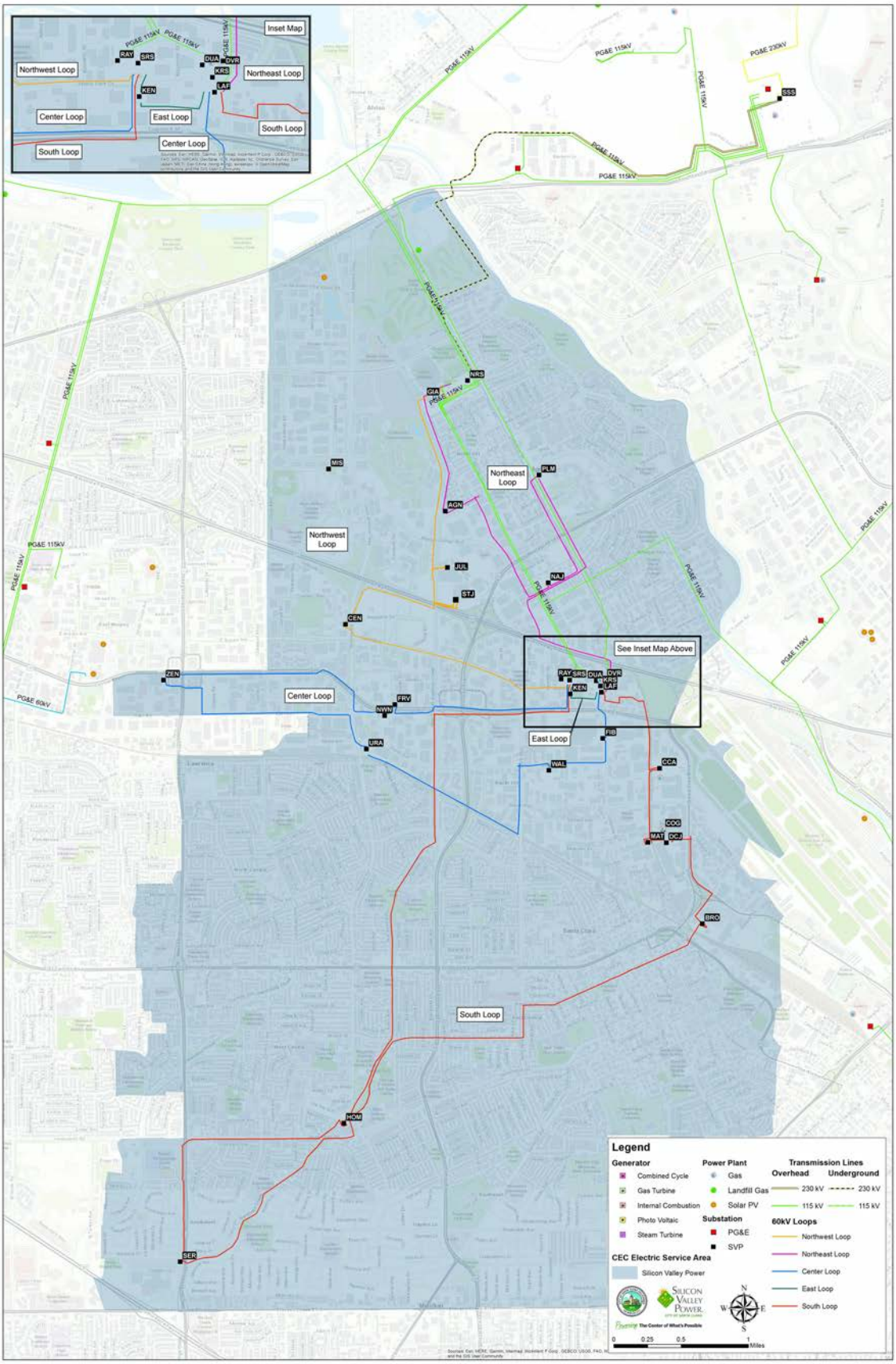
5. Pacific Gas and Electric Company and other utilities have developed Public Safety Power Shutoff protocols that could disconnect electrical services during periods of concern in order to prevent their equipment from starting wildfires. These potential shutoffs could last hours or even days. How would these new protocols potentially affect SVP's service territory or access to bulk transmission assets?

The City of Santa Clara's SVP is not located in a California Public Utilities Commission/Cal Fire Tier 2 or Tier 3 high fire risk zone. Therefore, SVP does not have a Public Safety Power Shutoff as part of their Wildfire Mitigation Plan. However, we do receive power from PG&E through six interconnection points. Based on our discussion with PG&E, Santa Clara may be requested by PG&E or the California Independent System Operator (CAISO) to curtail load. This request may be because of the reduced capacity somewhere within the system which will require overall system load reduction. This experience may be similar to the energy crisis of the early 2000's when rolling black-outs were require to maintain electric grid reliability. SVP has the capability to provide 200 MW of generation in the City with its Donald Von Raesfeld Combined Cycle Power Plant (147 MW) and the Gianera Peaker Plant (49 MW) and Cogen Facility (6 MW), we may be requested to curtail load.

SVP is working with PG&E and the CAISO as to how this situation may occur.


PLOTTED: 5/10/2019 10:30 AM BY LBROOKS
FILE LOCATION: N:\CLIENTS\KWMCE\EDGECORE\WP\CAD\CAEC\AUR100.DWG
LINE 1
BYP OWNED AND OPERATED
LINE 2
METER
CABLE BUS
TRANSFORMER 1
TRANSFORMER 2
TRANSFORMER 3
400 NEUTRAL RESISTOR
DEVICE LEGEND
SWITCH, GROUP OPERATED
POWER TRANSFORMER
CIRCUIT BREAKER
CURRENT TRANSFORMER
VOLTAGE TRANSFORMER
patterson & dewar ENGINEERS
EDGECORE
LAUREL SITE
SINGLE LINE DIAGRAM
SIMPLIFIED
REVISED SWITCH/CB# BREAKER NUMBERS.
ISSUED FOR REVIEW


SVP Transmission Overview
230 KV
115 KV
60 KV
SSS
NOR
NEW
FMC
NRS
SRS
KRS
GIA
DUA
NEW-NRS #1
NEW-NRS #2
NEW-KRS
NRS-SRS#1
NRS-SRS#2
G1
G2
G3
MIS
JUL
STJ
CEN
RAY
AGN
FRV
HOM
NWN
SER
ZEN
BRO
URA
DCJ
WAL
MAT
FIB
PAR
PLM
CCA
NAJ
KEN
LAF
G
NORTHWEST LOOP
NORTHEAST LOOP
SOUTH LOOP
CENTER LOOP
EAST LOOP


Inset Map
Northwest Loop
Northeast Loop
Center Loop
East Loop
South Loop
Center Loop
South Loop
RAY
SRS
DUA
DVR
KRS
LAF
KEN
PG&E 115kV
PG&E 230kV
SSS
NRS
GIA
MIS
PLM
Northeast Loop
AGN
Northwest Loop
JUL
NAU
STJ
CEN
See Inset Map Above
ZEN
Center Loop
FRV
NWN
URA
East Loop
FIB
WAL
CCA
COG
MAT
DCJ
BRO
South Loop
HOM
SER
PG&E 60kV
Legend
Generator
Combined Cycle
Gas Turbine
Internal Combustion
Photo Voltaic
Steam Turbine
Power Plant
Gas
Landfill Gas
Solar PV
Substation
PG&E
SVP
CEC Electric Service Area
Silicon Valley Power
Transmission Lines
Overhead
Underground
230 kV
115 kV
60kV Loops
Northwest Loop
Northeast Loop
Center Loop
East Loop
South Loop
N
S
E
W
0
0.25
0.5
1
Miles

SVP Loop Customers and Loading Peak - Substation:

Substation	Loop	Customer/Industry	Substation	Loop	Customer/Industry
Fairview	Center	Mfg1	Central	Northwest	Medical2
Fairview	Center	Datacenter1	Central	Northwest	Real Estate2
Fairview	Center	Datacenter2	Central	Northwest	Real Estate3
Fairview	Center	Datacenter3	Central	Northwest	Real Estate4
Fairview	Center	Datacenter4	Central	Northwest	Datacenter24
FIB	Center	Mfg2	Central	Northwest	Datacenter25
Lafayette	Center	Mfg3	Central	Northwest	R&D2
Lafayette	Center	Datacenter5	Central	Northwest	Real Estate5
Lafayette	Center	Mfg4	Central	Northwest	Real Estate6
Lafayette	Center	Mfg5	Central	Northwest	Healthcare equipment
Lafayette	Center	Datacenter6	Central	Northwest	Education13
Lafayette	Center	Mfg6	Central	Northwest	Semiconductor/R&D
NWN	Center	Datacenter7	JUL	Northwest	Datacenter26
Uranium	Center	Datacenter8	Mission	Northwest	Property Management7
Uranium	Center	R&D1	Mission	Northwest	Computer hardware/software 2
Uranium	Center	Property Management1	Mission	Northwest	Real Estate7
Uranium	Center	Datacenter9	Mission	Northwest	Datacenter27
Uranium	Center	Datacenter10	Mission	Northwest	Software1
Uranium	Center	Datacenter11	Mission	Northwest	Computer hardware/software 3
Uranium	Center	Property Management2	Mission	Northwest	Cyber Security 2
Uranium	Center	Education1	Mission	Northwest	Conventions 2
Uranium	Center	Education2	Mission	Northwest	Hotel3
Uranium	Center	Education3	Mission	Northwest	Medical3
Uranium	Center	Education4	Mission	Northwest	Cyber Security 3
Uranium	Center	Semiconductor/ Telecommunications	Mission	Northwest	Education14
Uranium	Center	Gaming/AI/ Semiconductors1	Mission	Northwest	Datacenter28
Uranium	Center	R&D/Mfg	Mission	Northwest	R&D3
Uranium	Center	Mfg7	Mission	Northwest	Semiconductor6
Walsh	Center	Semiconductor1	Mission	Northwest	Storage1
Walsh	Center	Gaming/AI/ Semiconductors2	Mission	Northwest	Entertainment3
Walsh	Center	Mfg8	Mission	Northwest	Property Management8
Walsh	Center	Gaming/AI/ Semiconductors3	Mission	Northwest	Medical4
Walsh	Center	Datacenter12	Mission	Northwest	Telecommunications2
Walsh	Center	Education5	Mission	Northwest	NFL5
Walsh	Center	Government1	Raymond	Northwest	Datacenter29
Walsh	Center	Government2	Raymond	Northwest	Datacenter30
Walsh	Center	Semiconductor2	Raymond	Northwest	Datacenter31
Walsh	Center	Semiconductor/R&D/Mfg	Raymond	Northwest	Datacenter32
Walsh	Center	Mfg9	Raymond	Northwest	Telecommunications3
Walsh	Center	Telecommunications1	Raymond	Northwest	Datacenter33
Walsh	Center	Datacenter13	Raymond	Northwest	Gaming/AI/Semiconductors5
Walsh	Center	Education6	Raymond	Northwest	Datacenter34
Walsh	Center	Datacenter14	Brokaw	South	Government3
Zeno	Center	Education7	Brokaw	South	Education15
Zeno	Center	Education8	Brokaw	South	Education16
Zeno	Center	Semiconductor3	Brokaw	South	Education17

Substation	Loop	Customer/Industry	Substation	Loop	Customer/Industry
Zeno	Center	Datacenter15	Brokaw	South	Real Estate8
Zeno	Center	Bio Tech 1	Brokaw	South	Design1
Zeno	Center	Semiconductor/ Telecommunicatio	Brokaw	South	Security 2
Zeno	Center	Semiconductor/R&D/Mfg	Brokaw	South	Education18
Agnew	Northeast	Security1	Brokaw	South	Education19
Agnew	Northeast	Property Management3	CCA	South	Mfg12
Agnew	Northeast	Property Management4	DCJ	South	Datacenter35
Agnew	Northeast	Entertainment1	Homestead	South	Education20
Agnew	Northeast	NFL1	Homestead	South	Education21
Agnew	Northeast	Property Management5	Homestead	South	Education22
Agnew	Northeast	Entertainment2	Homestead	South	Education23
Agnew	Northeast	Hotel1	Homestead	South	Education24
Agnew	Northeast	Datacenter18	Homestead	South	Education25
Agnew	Northeast	Medical1	Homestead	South	Education26
Agnew	Northeast	Mfg10	Homestead	South	Healthcare1
Agnew	Northeast	Datacenter19	Homestead	South	Telecommunications4
Agnew	Northeast	Datacenter20	Homestead	South	Education27
Agnew	Northeast	Datacenter21	Homestead	South	Education28
Agnew	Northeast	Datacenter22	MAT	South	Datacenter36
Agnew	Northeast	Cyber Security 1	PRK	South	Datacenter37
Agnew	Northeast	Hotel2	Serra	South	Medical device
Agnew	Northeast	Property Management6	Serra	South	Education29
NAJ	Northeast	Mfg11	Serra	South	Education30
Palm	Northeast	Datacenter/software/ cloud computing	Serra	South	Healthcare2
Palm	Northeast	NFL2	Serra	South	Healthcare3
Palm	Northeast	NFL3	Serra	South	Healthcare4
Palm	Northeast	NFL4	Serra	South	Healthcare5
Palm	Northeast	Education9	Kenneth	East	Datacenter16
Palm	Northeast	Education10	Kenneth	East	Datacenter17
Palm	Northeast	Conventions 1	Kenneth	East	Gaming/AI/Semiconductors4
Palm	Northeast	Education11			
Palm	Northeast	Semiconductor4			
Palm	Northeast	Datacenter23			
Palm	Northeast	Education12			
Palm	Northeast	Real Estate1			
Palm	Northeast	Network hardware1			
Palm	Northeast	Semiconductor5			
Palm	Northeast	Computer hardware/software 1			

SVP Loop Customers and Loading Peak - Loop:

Center 141MW	East Loop 15MW	Northeast Loop 28MW	Northwest Loop 112MW	South Loop 65MW
Mfg1	Datacenter16	Security1	Medical2	Government3
Datacenter1	Datacenter17	Property Management3	Real Estate2	Education15
Datacenter2	Gaming/AI/Semiconductors4	Property Management4	Real Estate3	Education16
Datacenter3		Entertainment1	Real Estate4	Education17
Datacenter4		NFL1	Datacenter24	Real Estate8
Mfg2		Property Management5	Datacenter25	Design1
Mfg3		Entertainment2	R&D2	Security 2
Datacenter5		Hotel1	Real Estate5	Education18
Mfg4		Datacenter18	Real Estate6	Education19
Mfg5		Medical1	Healthcare equipment	Mfg12
Datacenter6		Mfg10	Education13	Datacenter35
Mfg6		Datacenter19	Semiconductor/R&D	Education20
Datacenter7		Datacenter20	Datacenter26	Education21
Datacenter8		Datacenter21	Property Management7	Education22
R&D1		Datacenter22	Computer	Education23
Property Management1		Cyber Security 1	Real Estate7	Education24
Datacenter9		Hotel2	Datacenter27	Education25
Datacenter10		Property Management6	Software1	Education26
Datacenter11		Mfg11	Computer	Healthcare1
Property Management2		Datacenter/software/cloud computing	Cyber Security 2	Telecommunications4
Education1		NFL2	Conventions 2	Education27
Education2		NFL3	Hotel3	Education28
Education3		NFL4	Medical3	Datacenter36
Education4		Education9	Cyber Security 3	Datacenter37
Semiconductor/Telecommunications		Education10	Education14	Medical device
Gaming/AI/Semiconductors1		Conventions 1	Datacenter28	Education29
R&D/Mfg		Education11	R&D3	Education30
Mfg7		Semiconductor4	Semiconductor6	Healthcare2
Semiconductor1		Datacenter23	Storage1	Healthcare3
Gaming/AI/Semiconductors2		Education12	Entertainment3	Healthcare4
Mfg8		Real Estate1	Property Management8	Healthcare5
Gaming/AI/Semiconductors3		Network hardware1	Medical4	
Datacenter12		Semiconductor5	Telecommunications2	
Education5		Computer hardware/software 1	NFL5	

Center 141MW	**East Loop 15MW**	**Northeast Loop 28MW**	**Northwest Loop 112MW**	**South Loop 65MW**
Government1			Datacenter29	
Government2			Datacenter30	
Semiconductor2			Datacenter31	
Semiconductor/R&D/Mfg			Datacenter32	
Mfg9			Telecommunications3	
Telecommunications1			Datacenter33	
Datacenter13			Gaming/AI/Semiconductors5	
Education6			Datacenter34	
Datacenter14				
Education7				
Education8				
Semiconductor3				
Datacenter15				
Bio Tech 1				
Semiconductor/Telecommunications				
Semiconductor/R&D/Mfg				

August 8, 2019 email response from Kevin Kolnowski, Electric Utility Chief Operating Officer, Silicon Valley Power to Mark Hesters, Senior Electrical Engineer, California Energy Commission.

1. The Aug 2 response talks about the May 28/29, 2016 outage and the 28 customers that lost power. The table of outages in their response seems to list outages that affected 60kV customers, and these customers appear to be data centers customers and other, non-data center customers. Does SVP know how many of the 28 customers referred to on the May 28, 2016 entry were data centers?

   Two Data Centers were affected.

2. The Aug 2 response talks about a Dec 2, 2016 outage and the 257 customers that lost power. The table of outages in their response seems to list outage that affected 60kV customers, and these customers appear to be data centers customers and other, non-data center customers. Does SVP know how many of the 257 referred to on the Dec 2, 2016 entry were data centers?

   Four Data Centers were affected.

3. The Aug 2 response talks about a Dec 2, 2016 outage and the 257 customers that lost power. Can we get more information about this outage? Was it also an N-1-1 cascade like the series of faults that caused the May 28/29, 2016 outage? Why did we not hear about this outage earlier - was it different that the May 2016 outage (eg, internal faults versus an external fault like a balloon or squirrel)?

   This outage was caused during maintenance work with the Relay Technician. During the testing, the relay was required to be reset prior to returning to service. Since the relay was not reset, when put back into service the device tripped. The Standard Operating Procedure was revised to include the step of resetting the relay prior to placing back into service. This was not a N-1-1 cascading type outage. The outage lasted 12 minutes.

4. The Aug 2 response has a table of 60kV outages. Just to confirm, only the Dec 2 and May 28, 2016 outages affected data centers. So, for example, none of the 2927 customers affected by Mar 31, 2015 outage were data centers - is that correct?

   Correct, no data centers were effected during March 31, 2015 outage.

5. Also, it sounds like some data center customers are connected to 12kV feeds, but these feed are connected to the dual feed 60kV loops that are highly reliable. Is this correct, and how many customers might be on a 12kV line that comes off a 60kV loop? And how is reliability maintained on the 12kV line - looping, breakers and redundant equipment - like the 60kV loops?

   Yes, this is correct. The electric services that supply power to our 12kV data center customers are from our general 60kV distribution substations, which is inherently

connected to our 60kV looped system. The number of customers that are off a 12kV feeder (line) is limited to SVP's operational loading philosophy, which is 4.5MVA or 50% of the maximum 9MVA. Said in another way, we can have as few as one customer or as many as one-hundred on a feeder, as long as the entire load is less than 4.5MVA. To address reliability, by operating our 12kV feeders at half-loaded, SVP has operational flexibility to completely transfer loads to other 12kV feeders in the event of an outage. SVP may make an operational determination to limit a feeder to one data center customer, but at this time is not contractually obligated to provide as such.

6. The Aug 2 response has a 4.d. response regarding how the Vantage MECP1 data center responded to the May 28/29, 2016 SVP outage that said "[t]he description of the Vantage event is reasonable, however cannot be directly applied to the Laurelwood Data Center. The Vantage event had a unique combination of contributing factors for which the resulting outcome cannot be reasonably assumed to be the expected outcome for line faults on the SVP 60kV network." Do you have more information on what were the "contributing factors", and why should we not assume that other data centers would have similar "expected outcomes"?

   As discussed in the 8/2/19 document, had the DC voltage supply cable not had an issue, a similar event would have been contained. Our anticipation, an outage in the future the protection system would operate as expected.

7. Regarding the Aug 2 response to PG&E's PSPS plans, could SVP curtailments ever allow a data center to operate under emergency conditions?

   To date this has not happened, the decision to operate during this situation would be by the data center. Our understanding is during emergency situation, individuals can operate their emergency generators.

8. Are SVP curtailments to PSPS conditions voluntary or emergency conditions? We understand that diesel emergency gensets cannot operate for economic reasons, only in response to an unplanned emergency or upset on their supply grid.

   We will be instructed to reduce load to respond to emergency conditions somewhere within the CAISO controlled grid, we have to follow what the CAISO directs us to do. The CAISO instructions are not voluntary. We would request customers to reduce load to satisfy the emergency condition and if that is not sufficient we will begin shutdown of our customers to meet the emergency situation. We would be operating at the direction of the CAISO.

9. Are there any plans that part of the PSPS program might include payments to some loads to curtail or shed?

   SVP does not have a plan to pay a data center to shed or curtail load.

10. Would the 6 interconnection points with the PG&E system allow SVP/PG&E to wheel

bulk deliveries around potential shutdowns on the PG&E system? In other words, is the current understanding of the PSPS program that most shutdown will be in specific areas and not across the greater PG&E system, and that would allow PG&E to work around an area that would be fully shutdown?

The understanding is if the conditions are such where transmission has to be curtailed, the CAISO will require load reductions of the CAISO controlled grid, similar to the energy crisis from the early 2000's. SVP will request voluntary reductions to meet the CAISO demand or will make switching changes which to remove blocks of customers load. It will depend how much reductions the CAISO will be instructing us to reduce, voluntary load shedding and customer shutoff.

January 17, 2020 email response from Kevin Kolnowski, Electric Utility Chief Operating Officer, Silicon Valley Power to Mark Hesters, Senior Electrical Engineer, California Energy Commission.

Staff Questions in Black, SVP Responses in BLUE,

1. How many PSPS have been implemented in 2019 in Northern California in service territories adjacent or near to the SVP service territory? Date and approximate durations would be useful, but since the PSPS were not directed at SVP, you may only have approximations.
   a. PSPS 1 - Beginning October 9, 2019 ending October 11. SVP was notified officially from PG&E Tuesday October 8th SVP territory would not be impacted. PG&E targeted smaller transmission and distribution systems in the Santa Clara foothills, Cupertino foothills, and the Los Gatos Mountains.
   b. PSPS 2 - October 27 - October 30 – impacted Morgan Hill area and areas of the Los Gatos Mountains. Not sure of exact timing.
   c. PG&E filed CPUC PSPS Report Link: https://www.pge.com/en_US/safety/emergency- preparedness/natural-disaster/wildfires/public-safety-power-shutoff-faq.page

      See Bottom of Webpage under "Access PSPS resources", "WHERE CAN I FIND PSPS REPORTS FILED WITH THE CPUC".

2. Did any of above 2019 PSPS require SVP to curtail or shutoff service to any of their electricity customers?
   a. No.

3. Do you anticipate that future PSPS will be more targeted and location specific? Will that result in more or less potential effects on SVP?
   a. Based on CPUC actions, SVP anticipates future PSPS events to be more targeted and have less potential impacts to SVP's service territory.
      i. August 14, 2019 - CPUC Phase 2 R.18-12-005 to address additional aspects of utilities' PSPS processes and practices.
         1. CPUC Phase 2 R.18-12-005 Link: http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M251/K987/251987258.PDF
      ii. Oct. 28, 2019 - CPUC Action:
         1. Launching a formal investigation
         2. Immediate re-examination of how utilities use PSPS
         3. Ensuring additional consumer protection

4. Expanding wildfire mitigation plans for immediate impact
5. Enlist new technology partnerships
6. Document Link: http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M318/K885/318885370.PDF

4. Did any of the above 2019 PSPS require SVP to use alternative bulk transmission providers or infrastructure to deliver contracted power to their service territory from remote generators?
   a. No.

5. One of your main bulk transmission corridors is that provided by PG&E to the Tesla substation in the Central Valley. Is that substation and transmission corridor subject to higher fire risk than other parts of the bulk transmission that you use? Why not?
   a. SVP is not interconnected to the Tesla Substation.
      i. Please refer to CPUC website for PG&E Fire Mitigation Plan for fire risk related to the substation and corridor.
   b. SVP has interconnection points at the following: Newark (three interconnection points), Los Esteros (two interconnection points), Nortech (one interconnection point), and FMC (one interconnection point).
   c. SVP has no influence on how PG&E operates their system to provide power to SVP.

6. Do the bulk transmission corridors and interconnection points to these corridors have differing fire risks ratings than the SVP service territory?
   a. Refer to the CPUC's fire map (Link: https://www.cpuc.ca.gov/FireThreatMaps/). The PG&E interconnection points to SVP identified in Question 5 above are not in a fire risk zone.

7. Could there have been PG&E customers that were curtailed by a PSPS located directly adjacent (with in a city block, for example) to SVP customers that did not experience any outage or interruption of service (ie, parts of Santa Clara County lost power, but not the part of the county inside the City and SVP boundaries).
   a. No.

8. Have any discussions with the California ISO, other utilities or internal teams clarified how and when SVP might be affected by a PSPS? If the discussion are final or agreed up, can the agreement or the gist of the agreements and discussions be provided to us?
   a. June 6, 2019 - PG&E outreach call/presentation – no formal agreement. PG&E

outlined their determinants for initiating a PSPS and detailed their communication strategy. PG&E cannot directly curtail SVP load, only the CAISO can direct SVP to curtail load. PG&E agreed to notify SVP of PSPS events that may impact Santa Clara.

b. August 14, 2019 CAISO conference call – no formal agreement. Scenario planning and notification strategy. CAISO's responsibility to model the transmission system based on PG&E's proposed PSPS scenarios. SVP will be notified by CAISO to curtail load if CAISO studies determined744 the need to do so.

9. There appears to be a rush of new, large data centers that will be located in SVP service territory. In many cases the proposed data centers have an apparent total electricity draw that is much higher than the current MW supplied on the 60 kV loops that they will be connected to. Will the new data centers overwhelm the capacity of the loops or the supplies available to SVP?

   a. SVP performs engineering analysis for impacts and potential deficiencies caused by a large data center project. The total electricity draw anticipated by the customer requires build out and load ramp that often times take several years with multiple phases of construction. When a new customer proposes a new data center they are required to provide a load ramp. SVP performs analysis to determine what upgrades are necessary to reliably serve the new loads proposed by the customer. In cases where the total apparent electricity draw will exceed the capacity of the 60kV loop that will serve the load, Capital Improvement Projects (CIP) are created to address these issues. The customer's load may be limited to a reduced demand until these projects are completed to ensure that system operating limits are not exceeded. SVP currently has a 60kV loop upgrade project that will increase the capacity of the South and East Loop. Additionally, there are CIP projects to increase the capacity when the electrical demand on the loops justifies the construction of the project.

      The total impact of the projected growth for all of SVP's customers, including large data center growth, is studied annually as part of the CAISO Transmission Planning Process (TPP) for the impacts of SVP load growth on the surrounding electrical system. The cumulative effects of all load growth is studied and deficiencies are identified and mitigated in the TPP.

10. In discussion with you, you indicated that many customers of existing data centers in SVP territory appear to be migrating to the new data centers (perhaps for reasons of space, energy efficiency, enhanced security). Will such of migration result in slower demand increases (or a smaller net increase) than indicated purely by the addition of the name plate values of the data center and back-up generation facilities?

    a. SVP does not have direct knowledge of load migration between data centers and their customers. Despite building 80MVA of capacity from two substation projects,

completed for data centers in the last two years, SVP's load remained relatively flat.

11. In looking back at your earlier response to our inquiries about SVP operations, it appears that as of today there are 37 data centers are connected to your five 60 kV loops. Do you have estimate of how this number changed from 2010 to 2019? What has been the build=out of data centers in the SVP service territory, i.e., there were 27 data centers connected in 2010, 28 in 2011 and so on, to arrive at 37 data centers in 2019.

    a. Year – Number of Data Centers

2011 – 32	2015 – 38	2019 – 49
2012 – 37	2016 – 40	
2013 – 37	2017 – 43	
2014 - 38	2018 – 49	

12. In looking back at your earlier testimony at the McLaren hearings, and in response to our inquiries, you discussed that SVP outage rates published on your SVP web site are targeted to residential users, and are generally just a status of the system rather than a reliability of the system. Do you have a SVP outage rates for you 60kV loops?

    No.

    How are these outage rates calculated?

    As of December 31, 2019, SVP's grid reliability statistics are as follows:

12 Month Outage Statistics			
Index	As of This Month	As of This Month Last Year	Current Month
ASAI (%)	99.9900	99.9904	99.99747
CAIDI (Long) (min)	96.57	103.04	22.04681
SAIDI (Long) (min)	52.59	50.50	1.12803
SAIFI (Long) (ints/tot cust)	0.54	0.49	0.05118
SAIFI (Short) (ints/tot cust)	0.49	0.24	0.05941

ASAI - Average Service Availability Index
(customer minutes available/total customer minutes, as a %)
CAIDI - Customer Average Interruption Duration Index
(average minutes interrupted per interrupted customer)
SAIDI - System Average Interruption Duration Index
(average minutes interrupted per customer for all customers)
SAIFI (Long) - System Average Interruption Frequency Index
(# of long interruptions per customer for all customers)
SAIFI (Short) - System Average Interruption Frequency Index
(# of short interruptions per customer for all customers)

Do they consider the types of customers on the loops, the redundant feed to THOISE customers, and the isolation breakers used throughout the loops?

No.

Are the 60 kV outage rates published and how are they used in marketing to new commercial customers like data centers?

No, and the outages are not marketed.

Does SVP make any outage or reliability guarantees to commercial customers like data centers, or at least commitments to approach a certain outage or reliability rate?

No.

Appendix C

Mailing List

Appendix C: Mailing Lists

Owners and occupants of properties contiguous with the project (sent Notice of Intent in accordance with CEQA Guidelines Section 15072(b))

104-13-083	SCP 2001PE LLC	2175 MISSION COLLEGE BLVD	SANTA CLARA, CA 95054
104-13-083	CURRENT RESIDENT or TENANT	2179 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-13-094, 104-13-095	OMNIVISION TECHNOLOGIES INC	4275 BURTON AV	SANTA CLARA, CA 95054
104-13-094	CURRENT RESIDENT or TENANT	4275 BURTON DRIVE	SANTA CLARA, CA 95054
104-13-094	CURRENT RESIDENT or TENANT	4295 BURTON DRIVE	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2240 AGNEW ROAD	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2270 AGNEW ROAD	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2250 AGNEW ROAD	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2260 AGNEW ROAD	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2242 AGNEW ROAD	SANTA CLARA, CA 95054

Owners and occupants within 1000 feet of the project site or 500 feet of project linears (sent Notice of Receipt and Notice of Intent).

104-13-075, 104-13-076, 104-13-078, 104-34-053, 104-40-008, 104-40-032, 104-41-018, 104-42-005	SANTA CLARA VALLEY WATER DISTRICT	5750 ALMADEN EX	SAN JOSE, CA 95118
104-13-081, 104-13-085, 104-13-086, 104-13-090, 104-13-091	KOLL/ INTEREAL BAY AREA	600 UNVIERSITY ST., STE 2820	SEATTLE, WA 98101
104-13-081	CURRENT RESIDENT or TENANT	4211 BURTON DRIVE	SANTA CLARA, CA 95054
104-13-081	CURRENT RESIDENT or TENANT	4201 BURTON DRIVE	SANTA CLARA, CA 95054
104-13-085	CURRENT RESIDENT or TENANT	4250 BURTON DRIVE	SANTA CLARA, CA 95054
104-13-090	CURRENT RESIDENT or TENANT	2151 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-13-091	CURRENT RESIDENT or TENANT	4008 BURTON DRIVE	SANTA CLARA, CA 95054

104-13-091	CURRENT RESIDENT or TENANT	4000 BURTON DRIVE	SANTA CLARA, CA 95054
104-13-083	SCP 2001PE LLC	2175 MISSION COLLEGE BLVD	SANTA CLARA, CA 95054
104-13-083	CURRENT RESIDENT or TENANT	2179 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-13-088, 104-38-011	WASHCOP ASSOCIATIONS LP	600 UNVIERSITY ST., STE 2820	SEATTLE, WA 98101
104-13-088	CURRENT RESIDENT or TENANT	4255 BURTON DRIVE	SANTA CLARA, CA 95054
104-13-088	CURRENT RESIDENT or TENANT	4251 BURTON DRIVE	SANTA CLARA, CA 95054
104-38-011	CURRENT RESIDENT or TENANT	2051 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-13-094, 104-13-095	OMNIVISION TECHNOLOGIES INC	4275 BURTON AV	SANTA CLARA, CA 95054
104-13-094	CURRENT RESIDENT or TENANT	4275 BURTON DRIVE	SANTA CLARA, CA 95054
104-13-094	CURRENT RESIDENT or TENANT	4295 BURTON DRIVE	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2240 AGNEW ROAD	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2270 AGNEW ROAD	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2250 AGNEW ROAD	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2260 AGNEW ROAD	SANTA CLARA, CA 95054
104-13-095	CURRENT RESIDENT or TENANT	2242 AGNEW ROAD	SANTA CLARA, CA 95054
104-13-097	2350 MISSION INVESTORS BUILDING LLC	475 ALBERTO WY., STE 150	LOS GATOS, CA 95032
104-13-097	CURRENT RESIDENT or TENANT	2350 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-13-098, 104-13-099	24 HUNDRED LLC	475 ALBERTO WY., STE 150	LOS GATOS, CA 95032
104-13-098	CURRENT RESIDENT or TENANT	2350 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-13-098	CURRENT RESIDENT or TENANT	2360 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-13-098	CURRENT RESIDENT or TENANT	2352 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-13-099	CURRENT RESIDENT or TENANT	2350 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-13-099	CURRENT RESIDENT or TENANT	2390 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-34-000	CURRENT RESIDENT or TENANT	2315 BLUE LAGOON DRIVE	SANTA CLARA, CA 95054
104-34-001	AFSANEH ARMIN AND FARIBORZ AGAHDEL	4207 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054
104-34-002	JOUBIN FAGHANI	4217 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054

104-34-003	MIGUEL SAM AND SOHYUN PARK	4227 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054
104-34-004	ATEF AND SHERIFA IBRAHIM	333 SANTANA, APT 201	SAN JOSE, CA 95128-2004
104-34-004	CURRENT RESIDENT or TENANT	4237 LAKE SANTA CLARA DRIVE	SANTA CLARA, CA 95054
104-34-005	DAVID SWETZ ET AL	PO BOX 1580	WESTFORD, MA 01886
104-34-005	CURRENT RESIDENT or TENANT	4256 ATLANTIC COURT	SANTA CLARA, CA 95054
104-34-006	SHASHIKALA AND JITENDRA PATEL	20446 TRICIA WY	SARATOGA, CA 95070-4352
104-34-006	CURRENT RESIDENT or TENANT	4252 ATLANTIC COURT	SANTA CLARA, CA 95054
104-34-007	NANDAKISHORE CHAPPIDIVENKATA AND SWAPNA PALLAPINTI	3631 WILMINGTON RD	FREMONT, CA 94538
104-34-007	CURRENT RESIDENT or TENANT	4246 ATLANTIC COURT	SANTA CLARA, CA 95054
104-34-008	OREN AND ROBIN STERN	4242 ATLANTIC CT	SANTA CLARA, CA 95054-1306
104-34-009	JENNIFER ANDERSON ET AL	4236 ATLANTIC CT	SANTA CLARA, CA 95054-1306
104-34-010	RICHARD BURNS TRUSTEE	4232 ATLANTIC CT	SANTA CLARA, CA 95054-1306
104-34-011	LINDA AND THOMAS UCHIYAMA	4226 ATLANTIC CT	SANTA CLARA, CA 95054-1306
104-34-012	AWANISH AND ANA MISHRA	4222 ATLANTIC CT	SANTA CLARA, CA 95054-1306
104-34-013	BOB AND LORI GAGER TRUSTEE	10702 PEBBLE PL	CUPERTINO, CA 95014-1333
104-34-013	CURRENT RESIDENT or TENANT	4216 ATLANTIC COURT	SANTA CLARA, CA 95054
104-34-014	STEVEN GASPAROVIC	4212 ATLANTIC CT	SANTA CLARA, CA 95054-1306
104-34-015	DAVID STEELE AND MARY GUZZO TRUSTEE	4206 ATLANTIC CT	SANTA CLARA, CA 95054-1306
104-34-016	RICK AND TERESA ANDREWS	4202 ATLANTIC CT	SANTA CLARA, CA 95054-1306
104-34-017	SOCORRO AND ISABELO PAPA	4241 ATLANTIC CT	SANTA CLARA, CA 95054-1307
104-34-018	DALAN AND ABBEY CHAN	4245 ATLANTIC CT	SANTA CLARA, CA 95054-1307
104-34-019	SHANDOR AND HEATHER DAROCZI	4251 ATLANTIC CT	SANTA CLARA, CA 95054-1307
104-34-020	CHUNG HONG CHOU AND KAI PING LIN	840 CASCADE DR	SUNNYVALE, CA 94087-3139
104-34-020	CURRENT RESIDENT or TENANT	4255 ATLANTIC COURT	SANTA CLARA, CA 95054
104-34-021	JERRY AND ROXANNE LYONS TRUSTEE	4254 ERIE CT	SANTA CLARA, CA 95054-1313

104-34-022	LEELA KUMAR	4250 ERIE CT	SANTA CLARA, CA 95054-1313
104-34-023	KRYSTINE SZCZEPANSKI	4244 ERIE CT	SANTA CLARA, CA 95054-1313
104-34-024	LISA AND PAUL GEFKEN TRUSTEE	642 SONIA WY	MOUNTAIN VIEW, CA 94040-2525
104-34-024	CURRENT RESIDENT or TENANT	4240 ERIE COURT	SANTA CLARA, CA 95054
104-34-025	SEAN RYAN	4234 ERIE CT	SANTA CLARA, CA 95054-1313
104-34-026	DEREK LAU	4230 ERIE CT	SANTA CLARA, CA 95054-1313
104-34-027	CHRISTOPHE AND COLLEEN MARCADAL TRUSTEE	4224 ERIE CT	SANTA CLARA, CA 95054-1313
104-34-028	CHARLES MONTERO TRUSTEE	4220 ERIE CT	SANTA CLARA, CA 95054-1313
104-34-029	MARTHA AND ROBERT SHERMAN TRUSTEE	4298 DRY BED CT	SANTA CLARA, CA 95054
104-34-030	KISHORE JALLEDA AND MAMATHA KAMTAM	4296 DRY BED CT	SANTA CLARA, CA 95054
104-34-031	RICHARD AND CONSTANCE BLACK TRUSTEE	4292 DRY BED CT	SANTA CLARA, CA 95054
104-34-032	VIRGINIA TONG TRUSTEE	4286 DRY BED CT	SANTA CLARA, CA 95054
104-34-033	VERONICA CONTE AND ROY SCHUHMACHER	4282 DRY BED CT	SANTA CLARA, CA 95054
104-34-034	MARK NALEY	4276 DRY BED CT	SANTA CLARA, CA 95054
104-34-035	DOUGLAS AND EMILY DUERKSEN	4272 DRY BED CT	SANTA CLARA, CA 95054
104-34-036	JOANNE QUION	4266 DRY BED CT	SANTA CLARA, CA 95054
104-34-037	MATTHEW AND SU-LIN WINALSKI TRUSTEE	4262 DRY BED CT	SANTA CLARA, CA 95054
104-34-038	FANGZI WANG	2361 BLUE LAGOON DR	SANTA CLARA, CA 95054
104-34-039	SAMEH SARHAN AND LAMIA AMMAR	2371 BLUE LAGOON DR	SANTA CLARA, CA 95054
104-34-040	JINHUA AN AND JING HUANG	2381 BLUE LAGOON DR	SANTA CLARA, CA 95054
104-34-041	BRENDA BUTTRICK ET AL	2391 BLUE LAGOON DR	SANTA CLARA, CA 95054
104-34-042	LESLIE HURWITZ TRUSTEE	4267 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054
104-34-043	CHRISTINA AND STEVEN VANDEWATER	4277 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054
104-34-044	MARLENE MANGINDIN AND EDMUND UGOT ASUNCION TRUSTEE	3302 ARCHSHIRE CT	SAN JOSE, CA 95148-3155
104-34-044	CURRENT RESIDENT or TENANT	4287 LAKE SANTA CLARA DRIVE	SANTA CLARA, CA 95054

104-34-046	MICHAEL AND KRISTY CONN	4248 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054
104-34-047	JOHN AND KIM WELLS	4238 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054
104-34-050	LESLIE AND SHERYL YU ET AL	4258 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054
104-34-050	CURRENT RESIDENT or TENANT	4260 LAKE SANTA CLARA DRIVE	SANTA CLARA, CA 95054
104-35-000	CURRENT RESIDENT or TENANT	2275 AGNEW ROAD	SANTA CLARA, CA 95054
104-35-001	BRYAN LAM	4261 DRY BED CT	SANTA CLARA, CA 95054
104-35-002	ESWAR AND CHANDRIKA MANCHENELLA	537 COAKLEY DR	SAN JOSE, CA 95117-1523
104-35-002	CURRENT RESIDENT or TENANT	4263 DRY BED COURT	SANTA CLARA, CA 95054
104-35-003	MICHAEL GARDINER AND KAREN SIMPSON	4265 DRY BED CT	SANTA CLARA, CA 95054
104-35-004	CLARITA DE VERA	4267 DRY BED CT	SANTA CLARA, CA 95054
104-35-005	NITIN AND NIMISHA GARG TRUSTEE	13583 MYREN DR	SARATOGA, CA 95070-5113
104-35-005	CURRENT RESIDENT or TENANT	4271 DRY BED COURT	SANTA CLARA, CA 95054
104-35-006	JASON SIMON	4273 DRY BED CT	SANTA CLARA, CA 95054
104-35-007	PATRICIA LU TRUSTEE	PO BOX 613006	SAN JOSE, CA 95161
104-35-007	CURRENT RESIDENT or TENANT	4275 DRY BED COURT	SANTA CLARA, CA 95054
104-35-008	ROSE WHITE AND TR 2/2006 ROSE WHITE 2006 LIV TRUSTEE	4277 DRY BED CT	SANTA CLARA, CA 95054
104-35-009	ZULFIKAR MORBI AND INSIYAH YUSUFALI	4281 DRY BED CT	SANTA CLARA, CA 95054
104-35-010	HARSHAWARDHAN AND MOHINI BARVE TRUSTEE	4283 DRY BED CT	SANTA CLARA, CA 95054
104-35-011	FNU PRITHA HAIT	4285 DRY BED CT	SANTA CLARA, CA 95054
104-35-012	KATHRYN MCLVER	4287 DRY BED CT	SANTA CLARA, CA 95054
104-35-013	TYLER AND ALLYSON BROOKS	4289 DRY BED CT	SANTA CLARA, CA 95054
104-35-014	WALTER WOOD TRUSTEE & ET AL	4291 DRY BED CT	SANTA CLARA, CA 95054
104-35-015	PO FAI AND ANNA LAM	2578 KNIGHTSBRIDGE LN	SANTA CLARA, CA 95051-1231
104-35-015	CURRENT RESIDENT or TENANT	4203 ERIE COURT	SANTA CLARA, CA 95054
104-35-016	JOAN TOMLINSON TRUSTEE	4205 ERIE CT	SANTA CLARA, CA 95054-1314

104-35-017	DAVID SAID	4209 ERIE CT	SANTA CLARA, CA 95054-1314
104-35-018	MATTHEW BRUN	4213 ERIE CT	SANTA CLARA, CA 95054-1314
104-35-019	MICHAEL AND TERESITA AUBIN	4219 ERIE CT	SANTA CLARA, CA 95054-1314
104-35-020	MICHAEL SHARLAND	4223 ERIE CT	SANTA CLARA, CA 95054-1314
104-35-021	RAYMOND AND LISA MAH TRUSTEE	3401 GONZAGA PL	SANTA CLARA, CA 95051
104-35-021	CURRENT RESIDENT or TENANT	4229 ERIE COURT	SANTA CLARA, CA 95054
104-35-022	JAE YOON	4233 ERIE CT	SANTA CLARA, CA 95054-1314
104-35-023	SHARON PASQUINELLI AND DAVID BARCLAY REZIN TRUSTEE	924 CULLEN CT	CAMPBELL, CA 95008-4540
104-35-023	CURRENT RESIDENT or TENANT	4239 ERIE COURT	SANTA CLARA, CA 95054
104-35-024	PRAVEEN SAVUR AND SOWMYA MRUTHYUNJAYA TRUSTEE	4243 ERIE CT	SANTA CLARA, CA 95054
104-35-025	SANDY AND WILLIAM BUTCHKO	4249 ERIE CT	SANTA CLARA, CA 95054-1314
104-35-026	SAMIR PILIPOVIC AND LJILJANA VRACAR	4253 ERIE CT	SANTA CLARA, CA 95054-1314
104-35-027	GREGORY AND JOSIE GUILLEN	210 W LEXINGTON DR	GLENDALE, CA 91203
104-35-027	CURRENT RESIDENT or TENANT	2317 RUNNING WATER COURT	SANTA CLARA, CA 95054
104-35-028	GIOVANNI BOCAO	2323 RUNNING WATER CT	SANTA CLARA, CA 95054
104-35-029	ASHISH JOSHI AND SHRUTI MIRASHI	2327 RUNNING WATER CT	SANTA CLARA, CA 95054
104-35-030	MIKHAIL AND ALLA PEREKHODNIK	2333 RUNNING WATER CT	SANTA CLARA, CA 95054
104-35-031	JAMES LYAU	2337 RUNNING WATER CT	SANTA CLARA, CA 95054
104-35-032	AARON AND DONNA TANG TRUSTEE	1500 ALTURUS DR	BURLINGAME, CA 94010
104-35-032	CURRENT RESIDENT or TENANT	2343 RUNNING WATER COURT	SANTA CLARA, CA 95054
104-35-033	ELIZABETH DEGUZMAN	2347 RUNNING WATER CT	SANTA CLARA, CA 95054
104-35-034	EUGENIA SHIH TRUSTEE	1550 TECHNOLOGY DR., # 2072	SAN JOSE, CA 95110-3818
104-35-034	CURRENT RESIDENT or TENANT	2353 RUNNING WATER COURT	SANTA CLARA, CA 95054
104-35-035	DICHAU PHAM AND MAIKHANH LE	2342 RUNNING WATER CT	SANTA CLARA, CA 95054
104-35-036	FRANCISCO SALINAS TRUSTEE	238 PASEO DE GRANADA	REDONDO BEACH, CA 90277

104-35-036	CURRENT RESIDENT or TENANT	2336 RUNNING WATER COURT	SANTA CLARA, CA 95054
104-35-037	CHARLOTTE HERMANTO	2332 RUNNING WATER CT	SANTA CLARA, CA 95054
104-35-038	MYUNG SOOK LEE ET AL	2326 RUNNING WATER CT	SANTA CLARA, CA 95054
104-35-039	HUGH AND CYNTHIA COOLEY TRUSTEE	2545 BONNIE DR	SANTA CLARA, CA 95051-1201
104-35-039	CURRENT RESIDENT or TENANT	2322 RUNNING WATER COURT	SANTA CLARA, CA 95054
104-35-040	ROGER DIVIRGILIO TRUSTEE & ET AL	102 CARSON CT	FOLSOM, CA 95630
104-35-040	CURRENT RESIDENT or TENANT	2316 RUNNING WATER COURT	SANTA CLARA, CA 95054
104-35-041	LEANN AND BILLY MANLEY	2312 RUNNING WATER CT	SANTA CLARA, CA 95054
104-35-042	RICHARD HEMMERLING TRUSTEE	2301 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-043	PRASHANTH NEDNOOR AND MALLIKA KAKULAVARAPU	2305 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-044	CHRISTOPHER AND YIXIU BAGLEY	2311 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-045	BONNIE PICKHARDT TRUSTEE	1152 CAPRI DR	CAMPBELL, CA 95008-6054
104-35-045	CURRENT RESIDENT or TENANT	2315 FALLING WATER COURT	SANTA CLARA, CA 95054
104-35-046	GAYLE LYNN BERRY TRUSTEE	1352 GOLDCREST AV	SALEM, OR 97304
104-35-046	CURRENT RESIDENT or TENANT	2321 FALLING WATER COURT	SANTA CLARA, CA 95054
104-35-047	JIA AND DALI YANG	2700 DEL MEDIO CT ., APT 201	MOUNTAIN VIEW, CA 94040-1062
104-35-047	CURRENT RESIDENT or TENANT	2325 FALLING WATER COURT	SANTA CLARA, CA 95054
104-35-048	GORDON PERRY AND PAMELA VAUGHN-PERRY TRUSTEE	370 TUMBLEWEED CT	FREMONT, CA 94539-6813
104-35-048	CURRENT RESIDENT or TENANT	2331 FALLING WATER COURT	SANTA CLARA, CA 95054
104-35-049	SUSMITA KARMAKAR TRUSTEE	2335 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-050	ANWAR KHAN	2341 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-051	MICHAEL MAK	2350 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-052	NAGARAJAN RAJAGOPALAN AND SUCHETA NAGARAJAN TRUSTEE	2344 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-053	RAYMOND AND LISA MAH TRUSTEE	2340 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-054	ROBERT MATTHEW GODAR AND LINDA LEE HERRMANN TRUSTEE	1190 SPRUANCE ST	SAN JOSE, CA 95128-4244

104-35-054	CURRENT RESIDENT or TENANT	2334 FALLING WATER COURT	SANTA CLARA, CA 95054
104-35-055	AKILESH KRISHNAMURTHY AND SWETHA KRISHNAKUMAR	2330 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-056	ANTHONY THANISERIKARAN AND JOYCE ANTHONY	2324 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-057	BERTHA YOLANDA AGUAYO TRUSTEE	2440 YARROW ST	HOLLISTER, CA 95023
104-35-057	CURRENT RESIDENT or TENANT	2320 FALLING WATER COURT	SANTA CLARA, CA 95054
104-35-058	DAVID AND DEBORA STEININGER	18613 MARTHA AV	SARATOGA, CA 95070-4614
104-35-058	CURRENT RESIDENT or TENANT	2314 FALLING WATER COURT	SANTA CLARA, CA 95054
104-35-059	CHHEANG AND MARYBETH YANG	2310 FALLING WATER CT	SANTA CLARA, CA 95054
104-35-060	ALBERT TAM AND BETTY CHOW TRUSTEE	46419 ROADRUNNER RD	FREMONT, CA 94539
104-35-060	CURRENT RESIDENT or TENANT	2304 FALLING WATER COURT	SANTA CLARA, CA 95054
104-35-061	LUSINE AND YURA SARGSYAN	2300 FALLING WATER CT	SANTA CLARA, CA 95054
104-36-000	CURRENT RESIDENT or TENANT	4343 LAKESHORE DRIVE	SANTA CLARA, CA 95054
104-36-000	CURRENT RESIDENT or TENANT	2200 SAINT CLAIRE COURT	SANTA CLARA, CA 95054
104-36-001	EWA AND ZYGMUNT KRAWCZYK	2284 RIVER BED CT	SANTA CLARA, CA 95054
104-36-002	PATRICIA AND DRAKE VADER	2280 RIVER BED CT	SANTA CLARA, CA 95054
104-36-003	VERONICA WEXLER	2274 RIVER BED CT	SANTA CLARA, CA 95054
104-36-004	DEAN HAMMER ET AL	2270 RIVER BED CT	SANTA CLARA, CA 95054
104-36-005	TSI-SHUNG SUN TRUSTEE & ET AL	718 EPPLETON LN., # 303	FOSTER CITY, CA 94404-2515
104-36-005	CURRENT RESIDENT or TENANT	2264 RIVER BED COURT	SANTA CLARA, CA 95054
104-36-006	KYUNGJA AND HANKYU CHUNG TRUSTEE	13139 DELSON CT	LOS ALTOS, CA 94022
104-36-006	CURRENT RESIDENT or TENANT	2260 RIVER BED COURT	SANTA CLARA, CA 95054
104-36-007	SHARON O'NEILL TRUSTEE	1760 ISABEL DR	SAN JOSE, CA 95125-5244
104-36-007	CURRENT RESIDENT or TENANT	2254 RIVER BED COURT	SANTA CLARA, CA 95054
104-36-008	TAMMY NGUYEN	2250 RIVER BED CT	SANTA CLARA, CA 95054
104-36-009	GAURAV BUDJADE AND SAMHITA PHUKAN	2245 RIVER BED CT	SANTA CLARA, CA 95054

104-36-010	LAURENCE KARLAN LO TRUSTEE	2251 RIVER BED CT	SANTA CLARA, CA 95054
104-36-011	NISHANT NAGESHWAR AND DIVYA SHAKTAWAT TRUSTEE	2255 RIVER BED CT	SANTA CLARA, CA 95054
104-36-012	PRANAY MISHRA	2261 RIVER BED CT	SANTA CLARA, CA 95054
104-36-013	ERIC CHAN	795 BURNETT AVENUE, APT 1	SAN FRANCISCO, CA 94131-1419
104-36-013	CURRENT RESIDENT or TENANT	2265 RIVER BED COURT	SANTA CLARA, CA 95054
104-36-014	ASHUTOSH MESTRY AND RANJANA HARIDAS	2271 RIVER BED CT	SANTA CLARA, CA 95054
104-36-015	ROOPA HUNGUND	PO BOX 4964	SANTA CLARA, CA 95056
104-36-015	CURRENT RESIDENT or TENANT	2275 RIVER BED COURT	SANTA CLARA, CA 95054
104-36-016	JUAN ARIAS	2281 RIVER BED CT	SANTA CLARA, CA 95054
104-36-017	ERIC MACH	2285 RIVER BED CT	SANTA CLARA, CA 95054
104-36-018	PAMELA LEE AND GORDON PERRY TRUSTEE	2021 THE ALAMEDA, # 150	SAN JOSE, CA 95126-1126
104-36-018	CURRENT RESIDENT or TENANT	2291 RIVER BED COURT	SANTA CLARA, CA 95054
104-36-019	MARGARET SLIZ TRUSTEE	2292 CREEK BED CT	SANTA CLARA, CA 95054-1309
104-36-020	CHANTIA AND SIMON CARROLL	2286 CREEK BED CT	SANTA CLARA, CA 95054-1309
104-36-021	AN LI	2282 CREEK BED CT	SANTA CLARA, CA 95054-1309
104-36-022	YI QING WANG	2276 CREEK BED CT	SANTA CLARA, CA 95054-1309
104-36-023	ROBERT AND SUZANNE CURTHOYS	1768 PENTLAND CT	FOLSOM, CA 95630
104-36-023	CURRENT RESIDENT or TENANT	2272 CREEK BED COURT	SANTA CLARA, CA 95054
104-36-024	JAMES GERMONO	2266 CREEK BED CT	SANTA CLARA, CA 95054-1309
104-36-025	CHEE YUNG CHAN AND MAGGIE WAISUM NG TRUSTEE	10220 PENINSULA AV	CUPERTINO, CA 95014-1211
104-36-025	CURRENT RESIDENT or TENANT	2262 CREEK BED COURT	SANTA CLARA, CA 95054
104-36-026	CYRIL AND NANCY KOBLE TRUSTEE	2256 CREEK BED CT	SANTA CLARA, CA 95054-1309
104-36-027	YANG SONG	2252 CREEK BED CT	SANTA CLARA, CA 95054-1309
104-36-028	GRADY AND KRISTEN WRIGHT	2246 CREEK BED CT	SANTA CLARA, CA 95054-1309
104-36-029	MADELINE ANNE AND EDWARD STEPHEN MILES	11712 PALISADES PY	AUSTIN, TX 78732-1240

104-36-029	CURRENT RESIDENT or TENANT	2242 CREEK BED COURT	SANTA CLARA, CA 95054
104-36-033	ANTHONY H YUEN ET AL	2257 CREEK BED CT	SANTA CLARA, CA 95054-1310
104-36-034	PETER PETERSON	2263 CREEK BED CT	SANTA CLARA, CA 95054-1310
104-36-035	NELSON AND SHERICE EVELYN LEE TRUSTEE	1431 MAGNOLIA AV	SAN CARLOS, CA 94070
104-36-035	CURRENT RESIDENT or TENANT	2267 CREEK BED COURT	SANTA CLARA, CA 95054
104-36-036	EDUARDO HNIZDO	2273 CREEK BED CT	SANTA CLARA, CA 95054-1310
104-36-037	RAYMOND AND JENNY MOVINSKI TRUSTEE	2277 CREEK BED CT	SANTA CLARA, CA 95054-1310
104-36-038	CHRISTOPHER WALKER ET AL	2283 CREEK BED CT	SANTA CLARA, CA 95054-1310
104-36-039	RASHMI VENGATESWARAN AND VENGATESWARAN CHANDRASEKARAN	2287 CREEK BED CT	SANTA CLARA, CA 95054-1310
104-36-040	GERMAN RICO	174 PINE ST	CORNING, NY 14830
104-36-040	CURRENT RESIDENT or TENANT	2293 CREEK BED COURT	SANTA CLARA, CA 95054
104-37-000	CURRENT RESIDENT or TENANT	2315 RUNNING WATER COURT	SANTA CLARA, CA 95054
104-37-001	JOEL TACORDA	PO BOX DR	MOUNTAIN VIEW, CA 94042
104-37-001	CURRENT RESIDENT or TENANT	2398 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-002	GRACE AND RICKY YEH	2729 PEACHWOOD CT	SAN JOSE, CA 95132-2127
104-37-002	CURRENT RESIDENT or TENANT	2396 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-003	CECE SMITH-WALLS AND ROGER WALLS	2394 SHORESIDE CT	SANTA CLARA, CA 95054-1350
104-37-004	CRISTINA AND WM ANTONIO DIZON	15944 MADRID CT	TRACY, CA 95304-9733
104-37-004	CURRENT RESIDENT or TENANT	2392 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-005	ARAVINDHA RAMAKRISHNAN	1905 W 2250N	LEHI, UT 84043
104-37-005	CURRENT RESIDENT or TENANT	2390 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-006	MICHAEL AND ELSA TOOLEY TRUSTEE & ET AL	2340 CAPTAIN COOK DR	ANCHORAGE, AK 99517-1253
104-37-006	CURRENT RESIDENT or TENANT	2388 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-007	JOEY AND CHONG ICHINAGA	2386 SHORESIDE CT	SANTA CLARA, CA 95054-1350
104-37-008	NAILYA WHITMER TRUSTEE & ET AL	2384 SHORESIDE CT	SANTA CLARA, CA 95054-1350
104-37-009	JINSHI HUANG	183 INDIAN HILL PL	FREMONT, CA 94539

104-37-009	CURRENT RESIDENT or TENANT	2382 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-010	CHUNG YEE LIEW	2378 SHORESIDE CT	SANTA CLARA, CA 95054-1350
104-37-011	GLORIA OHARA TRUSTEE or CURRENT RESIDENT	2376 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-012	CORBETT ANDERSON	2374 SHORESIDE CT	SANTA CLARA, CA 95054-1350
104-37-013	CHENGYU GUAN AND XIAOSU HUANG	735 ASHBOURNE DR	SUNNYVALE, CA 94087-3418
104-37-013	CURRENT RESIDENT or TENANT	2372 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-014	JAMES AND SAMANTHA SCANTLEN TRUSTEE	2370 SHORESIDE CT	SANTA CLARA, CA 95054-1350
104-37-015	KWOK WING AND CARRIQ FUNG TRUSTEE	2368 SHORESIDE CT	SANTA CLARA, CA 95054-1350
104-37-016	EDWIN MING YEE AND SHIH CHIEN LEE TRUSTEE	4103 MARGARET CT	SAN MATEO, CA 94403
104-37-016	CURRENT RESIDENT or TENANT	2361 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-017	XIAOSU HUANG AND CHENGYU GUAN	735 ASHBURN DR	SUNNYVALE, CA 94087
104-37-017	CURRENT RESIDENT or TENANT	2363 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-018	CESAR AND ALICIA MARTINEZ TRUSTEE	2365 SHORESIDE CT	SANTA CLARA, CA 95054-1351
104-37-019	BECKY BICH NGUYEN TRUSTEE	2367 SHORESIDE CT	SANTA CLARA, CA 95054-1351
104-37-020	RAJESH AND DINA UNADKAT	2369 SHORESIDE CT	SANTA CLARA, CA 95054-1351
104-37-021	NEERAJ AND RINA KAUTS	2383 SHORESIDE CT	SANTA CLARA, CA 95054-1351
104-37-022, 104-37-025	PAMELA AND GORDON PERRY	370 TUMBLEWEED	FREMONT, CA 94539-6813
104-37-022	CURRENT RESIDENT or TENANT	2385 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-025	CURRENT RESIDENT or TENANT	2391 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-023	CHARLES T C COMPTON AND YULIYA VORONINSKAYA	3 FRANCISCAN RIDGE	PORTOLA VALLEY, CA 94028
104-37-023	CURRENT RESIDENT or TENANT	2387 SHORESIDE COURT	SANTA CLARA, CA 95054
104-37-024	REYNOLD AND TRISHA CARLOS ET AL	2389 SHORESIDE CT	SANTA CLARA, CA 95054-1351
104-37-026	IRENE BRUMBAUGH	2393 SHORESIDE CT	SANTA CLARA, CA 95054-1351
104-37-027	ANWAR KHAN	2341 FALLING WATER CT	SANTA CLARA, CA 95054
104-37-027	CURRENT RESIDENT or TENANT	4327 LAKE SANTA CLARA DRIVE	SANTA CLARA, CA 95054
104-37-028	JOYCE MOLYNEAUX TRUSTEE	4337 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054

104-37-029	SELVARAJ BALAGOPAL TRUSTEE	4347 LAKE SANTA CLARA DR	SANTA CLARA, CA 95054
104-37-030	GAIL WEBER	766 S CYPRESS AV	SAN JOSE, CA 95117-2114
104-37-030	CURRENT RESIDENT or TENANT	4357 LAKE SANTA CLARA DRIVE	SANTA CLARA, CA 95054
104-37-036	VANNA WONG AND TAN TRINH	4366 LAKESHORE DR	SANTA CLARA, CA 95054-1333
104-37-037	SIDDHESH DHUPE AND ROOPAL JAIN	4356 LAKESHORE DR	SANTA CLARA, CA 95054-1333
104-37-038	YU-CHENG TSAI AND AMY WU	2303 RUNNING WATER CT	SANTA CLARA, CA 95054
104-37-039	SVETLANA SIMBIRSKY	2307 RUNNING WATER CT	SANTA CLARA, CA 95054
104-37-040	TIMOTHY MAHER	2313 RUNNING WATER CT	SANTA CLARA, CA 95054
104-39-018, 104-39-019, 104-39-020, 104-48-010	INTEL CORPORATION	2200 MISSION COLLEGE BLVD	SANTA CLARA, CA 95054-1537
104-39-018	CURRENT RESIDENT or TENANT	3603 JULIETTE LANE	SANTA CLARA, CA 95054
104-39-019	CURRENT RESIDENT or TENANT	3605 JULIETTE LANE	SANTA CLARA, CA 95054
104-39-019	CURRENT RESIDENT or TENANT	3750 JULIETTE LANE	SANTA CLARA, CA 95054
104-39-020	CURRENT RESIDENT or TENANT	3601 JULIETTE LANE	SANTA CLARA, CA 95054
104-39-020	CURRENT RESIDENT or TENANT	3606 JULIETTE LANE	SANTA CLARA, CA 95054
104-48-010	CURRENT RESIDENT or TENANT	3595 JULIETTE LANE	SANTA CLARA, CA 95054
104-48-010	CURRENT RESIDENT or TENANT	2191 LAURELWOOD ROAD	SANTA CLARA, CA 95054
104-48-010	CURRENT RESIDENT or TENANT	2250 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-48-010	CURRENT RESIDENT or TENANT	2150 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-48-010	CURRENT RESIDENT or TENANT	2310 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-48-010	CURRENT RESIDENT or TENANT	3621 JULIETTE LANE	SANTA CLARA, CA 95054
104-13-096	CURRENT RESIDENT or TENANT	2325 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-40-019	FREEDOM CIRCLE LLC	550 NEWPORT CENTER DR	NEWPORT BEACH, CA 92660
104-40-019	CURRENT RESIDENT or TENANT	3940 FREEDOM CIRCLE	SANTA CLARA, CA 95054
104-40-019	CURRENT RESIDENT or TENANT	3900 FREEDOM CIRCLE	SANTA CLARA, CA 95054
104-40-019	CURRENT RESIDENT or TENANT	3920 FREEDOM CIRCLE	SANTA CLARA, CA 95054

104-40-019	CURRENT RESIDENT or TENANT	2560 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-40-019	CURRENT RESIDENT or TENANT	3970 FREEDOM CIRCLE	SANTA CLARA, CA 95054
104-40-019	CURRENT RESIDENT or TENANT	3990 FREEDOM CIRCLE	SANTA CLARA, CA 95054
104-40-019	CURRENT RESIDENT or TENANT	3910 FREEDOM CIRCLE	SANTA CLARA, CA 95054
104-40-019	CURRENT RESIDENT or TENANT	2540 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-40-019	CURRENT RESIDENT or TENANT	2520 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-40-019	CURRENT RESIDENT or TENANT	2518 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-40-019	CURRENT RESIDENT or TENANT	3960 FREEDOM CIRCLE	SANTA CLARA, CA 95054
104-40-036	FREEDOM CIRCLE VENTURE LLC	450 SANSOME ST., STE 500	SAN FRANCISCO, CA 94111
104-40-036	CURRENT RESIDENT or TENANT	3925 FREEDOM CIRCLE	SANTA CLARA, CA 95054
104-40-036	CURRENT RESIDENT or TENANT	3921 FREEDOM CIRCLE	SANTA CLARA, CA 95054
104-41-031	CURRENT RESIDENT or TENANT	2431 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-41-031	CURRENT RESIDENT or TENANT	2435 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-41-031, 104-41-043	SI 34 LLC	599 CASTRO ST., UNIT 400	MOUNTAIN VIEW, CA 94041
104-41-032	SI 30 LLC	10600 N DE ANZA BLVD., STE #200	CUPERTINO, CA 95014
104-41-032	CURRENT RESIDENT or TENANT	2421 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-41-043	CURRENT RESIDENT or TENANT	2461 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-41-043	CURRENT RESIDENT or TENANT	2441 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-41-043	CURRENT RESIDENT or TENANT	2451 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-41-043	CURRENT RESIDENT or TENANT	2445 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-41-043	CURRENT RESIDENT or TENANT	2465 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054
104-42-019	CURRENT RESIDENT or TENANT	2401 AGNEW ROAD	SANTA CLARA, CA 95054
104-46-020	ELMER AND LODVINA SAMSON TRUSTEE	2285 2ND ST	SANTA CLARA, CA 95054
104-46-021	MAXIMO FRANCISCO ET AL	2295 2ND ST	SANTA CLARA, CA 95054-1301
104-13-096	PR III 2305 MISSIONCOLLEGE	7 GIRALDA FARMS	MADISON, NJ 7940
104-13-096	CURRENT RESIDENT or TENANT	2305 MISSION COLLEGE BOULEVARD	SANTA CLARA, CA 95054

104-54-001	ANTHONY AND LARA TOMLINSON	2200 AGNEW RD., # 104	SANTA CLARA, CA 95054-1503
104-54-002	KAREN KI WING LEE	2200 AGNEW RD., # 105	SANTA CLARA, CA 95054-1503
104-54-003	CLARE CHANG ET AL	2200 AGNEW RD., # 106	SANTA CLARA, CA 95054-1503
104-54-004	YI XIANG	2200 AGNEW RD., # 107	SANTA CLARA, CA 95054-1503
104-54-005	ZHAOYAN XU AND YINZI XIONG	2448 CORUM CT	UNION CITY, CA 94587
104-54-005	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 108	SANTA CLARA, CA 95054
104-54-006	SARAH NEWMAN	2200 AGNEW RD., # 109	SANTA CLARA, CA 95054-1504
104-54-007	TERESA ESPELETA TRUSTEE	2200 AGNEW RD., # 110	SANTA CLARA, CA 95054-1504
104-54-008	HARINATH AND DEEPA KAMEPALLI TRUSTEE	1193 THORNBURY LN	SAN JOSE, CA 95138-0000
104-54-008	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 111	SANTA CLARA, CA 95054
104-54-009	JOSEPH AND ROXANA HWU YANG TRUSTEE	PO BOX 400	LOS ALTOS, CA 94023
104-54-009	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 112	SANTA CLARA, CA 95054
104-54-010	PRADEEP RAVIPATI AND PRASHANTI RAJKUMAR	2200 AGNEW RD., # 116	SANTA CLARA, CA 95054-1504
104-54-011	SHILPA SANGIREDDY AND KIRAN BHUMANA	2037 POPLAR HIGH PL	CARY, NC 27519-8960
104-54-011	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 117	SANTA CLARA, CA 95054
104-54-012	VINH PHUNG VAN TRUSTEE	2200 AGNEW RD., # 118	SANTA CLARA, CA 95054-1504
104-54-013	KWON MUN CHU	2200 AGNEW RD., # 119	SANTA CLARA, CA 95054-1504
104-54-014	MANOJ PAWAR AND POOJA PARAB	1086 KILDARE AV	SUNNYVALE, CA 94087-5032
104-54-014	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 120	SANTA CLARA, CA 95054
104-54-015	KRISHNANKUTTY SUDHIR TRUSTEE	2200 AGNEW RD., # 121	SANTA CLARA, CA 95054-1503
104-54-016	MARK CHIU	2200 AGNEW RD., # 122	SANTA CLARA, CA 95054-1503
104-54-017	JENNIFER NAKAMURA	2200 AGNEW RD., # 123	SANTA CLARA, CA 95054-1503
104-54-018	PRIYANKA AND MAYANK JAIN	2200 AGNEW RD., # 204	SANTA CLARA, CA 95054-1505
104-54-019	ZHENJIE YAN AND JIABIN QI	5622 MORTON WY	SAN JOSE, CA 95123-2962
104-54-019	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 205	SANTA CLARA, CA 95054
104-54-020	SAURABH SUREKA AND ALPIKA SINGH	620 LISA WY	CAMPBELL, CA 95008-0513

104-54-020	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 206	SANTA CLARA, CA 95054
104-54-021	CHI MAN AND LOUISA LO YEE LEUNG NG	1198 W LATIMER AV	CAMPBELL, CA 95008-1703
104-54-021	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 207	SANTA CLARA, CA 95054
104-54-022	RAYMOND WONG AND CYNTHIA OI WING LUI	3152 VESUVIUS LN	SAN JOSE, CA 95132-2355
104-54-022	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 208	SANTA CLARA, CA 95054
104-54-023	JACKIE CHAN	2200 AGNEW RD., # 209	SANTA CLARA, CA 95054-1506
104-54-024	XIN WANG ET AL	2200 AGNEW RD., # 210	SANTA CLARA, CA 95054-1506
104-54-025	JI ZHU AND MENGXI LI	2200 AGNEW RD., # 211	SANTA CLARA, CA 95054-1506
104-54-026	BRUCE TRANS	2200 AGNEW RD., APT 212	SANTA CLARA, CA 95054-1506
104-54-027	YING LIU	1701 AGNEW RD., # 216	SANTA CLARA, CA 95054-1506
104-54-028	LINCOLN PETERS	2200 AGNEW RD., # 217	SANTA CLARA, CA 95054-1506
104-54-029	SITARAM ASUR	2200 AGNEW RD., # 218	SANTA CLARA, CA 95054-1506
104-54-030	DAWN RATCLIFFE	2200 AGNEW RD., # 219	SANTA CLARA, CA 95054-1506
104-54-031	HUNG-LI CHEN	2200 AGNEW RD., # 220	SANTA CLARA, CA 95054-1506
104-54-032	LING JI CHAN	2200 AGNEW RD., # 221	SANTA CLARA, CA 95054-1505
104-54-033	ZIYUE LIU ET AL	2200 AGNEW RD., # 222	SANTA CLARA, CA 95054-1505
104-54-034	ANN KEIKO ODONNELL TRUSTEE	2200 AGNEW RD., # 223	SANTA CLARA, CA 95054-1505
104-54-035	OLEG PLISS AND OLGA KONONOVA	2200 AGNEW RD., # 304	SANTA CLARA, CA 95054-1507
104-54-036	TSUTOMU KIYOHARA	2200 AGNEW RD., # 305	SANTA CLARA, CA 95054-1507
104-54-037	SOPHIA GILMAN	2200 AGNEW RD., # 306	SANTA CLARA, CA 95054-1507
104-54-038	SUNIL SHETTIGAR	2200 AGNEW RD., # 307	SANTA CLARA, CA 95054-1507
104-54-039	SAMNANG AND RITA PEN TRUSTEE	2380 CARMEL DR	PALO ALTO, CA 94303-3142
104-54-039	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 308	SANTA CLARA, CA 95054
104-54-040	ALTHIA DOUGLAS	13832 NATHAN PL	MORENO VALLEY, CA 92555
104-54-040	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 309	SANTA CLARA, CA 95054
104-54-041	ELVIRA VENTURA AND RODOLFO RODRIGUEZ	2200 AGNEW RD., # 310	SANTA CLARA, CA 95054-1508

104-54-042	AHMET AND GOZDE TEKDAS	2200 AGNEW RD., # 311	SANTA CLARA, CA 95054-1508
104-54-043	MATTHEW GIBILISCO	73 W POPLAR RD	MIDDLETOWN, CT 06457-7958
104-54-043	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 312	SANTA CLARA, CA 95054
104-54-044	LOVELL CAMNITZ	2200 AGNEW RD., # 316	SANTA CLARA, CA 95054-1508
104-54-045	RUI ZHANG	2200 AGNEW RD., # 317	SANTA CLARA, CA 95054-1508
104-54-046	PETER LIM	631 WALTERMIRE ST., APT 3	BELMONT, CA 94002-2867
104-54-046	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 318	SANTA CLARA, CA 95054
104-54-047	YU-PING CHEN	2200 AGNEW RD., # 319	SANTA CLARA, CA 95054-1508
104-54-048	YURY KATZ	2200 AGNEW RD., # 320	SANTA CLARA, CA 95054-1508
104-54-049	PERLA DENINA	2200 AGNEW RD., # 321	SANTA CLARA, CA 95054-1507
104-54-050	JAMIE KINGHONG CHUI TRUSTEE	2200 AGNEW RD., # 322	SANTA CLARA, CA 95054-1507
104-54-051	PADMANABHA VEDAM AND MAHALAKSHMI SRINIVASAN	4106 DEEP CREEK RD	FREMONT, CA 94555-2004
104-54-051	CURRENT RESIDENT or TENANT	2200 AGNEW ROAD, # 323	SANTA CLARA, CA 95054

Libraries (sent Notice of Receipt and Notice of Intent).

	CEC - ENERGY LIBRARY	1516 9TH ST	MS-10	SACRAMENTO	CA	95814-5504
GOV PUBLICATIONS	FRESNO COUNTY FREE LIBRARY	2420 MARIPOSA ST		FRESNO	CA	93721-2204
	HUMBOLDT COUNTY MAIN LIBRARY	1313 3RD STREET		EUREKA	CA	95501-0553
SERIALS DIVISION	LOS ANGELES PUBLIC LIBRARY	630 W 5TH ST		LOS ANGELES	CA	90071-2002
SCIENCE & INDUSTRY DIV	SAN DIEGO PUBLIC LIBRARY	330 PARK BLVD		SAN DIEGO	CA	92101-6478
GOVERNMENT INFORMATION CENTER	SAN FRANCISCO PUBLIC LIBRARY	100 LARKIN ST		SAN FRANCISCO	CA	94102-4733
GOV PUBS	STANLEY MOSK LIBRARY & COURTS BLDG	914 CAPITOL MALL	3RD FLR	SACRAMENTO	CA	95814
LIBRARIAN	NORTHSIDE BRANCH LIBRARY	695 MORELAND WAY		SANTA CLARA	CA	95054
LIBRARIAN	SANTA CLARA CENTRAL PARK LIBRARY	2635 HOMESTEAD ROAD		SANTA CLARA	CA	95051

Native American Tribes (sent Notice of Receipt and Notice of Intent).

FIRST	LAST	TITLE	TRIBE NAME	ADDRESS	CITY	ST	ZIP
HONORABLE VALENTIN	LOPEZ	CHAIRPERSON	AMAH MUTSUN TRIBAL BAND	P.O. BOX 5272	GALT	CA	95632
HONORABLE IRENE	ZWIERLEIN	CHAIRPERSON	AMAH MUTSUN TRIBAL BAND OF MISSION SAN JUAN BAUTISTA	789 CANADA ROAD	WOODSIDE	CA	94062
HONORABLE ANN-MARIE	SAYERS	CHAIRPERSON	INDIAN CANYON MUTSUN BAND OF COSTANOAN	P.O. BOX 28	HOLLISTER	CA	95024
HONORABLE CHARLENE	NIJMEH	CHAIRPERSON	MUWEKMA OHLONE TRIBE OF THE SAN FRANCISCO BAY AREA	20885 REDWOOD ROAD, SUITE 232	CASTRO VALLEY	CA	94546
HONORABLE KATHERINE	EROLINDA PEREZ	CHAIRPERSON	NORTH VALLEY YOKUTS TRIBE	P.O. BOX 717	LINDEN	CA	95236
ANDREW	GALVAN		THE OHLONE INDIAN TRIBE	P.O. BOX 3388	FREMONT	CA	94539

Agencies (Sent the Notice of Receipt and Notice of Intent).

ARIANA	HUSAIN	PERMIT ENGINEER	BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD)	375 BEALE STREET, SUITE 600	SAN FRANCISCO	CA	94105
GREG	STONE	SUPERVISING AIR QUALITY ENGINEER	BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD)	375 BEALE STREET, SUITE 600	SAN FRANCISCO	CA	94105
STEVE	LE	ASSOCIATE PLANNER	CITY OF SANTA CLARA PLANNING DIVISION	1500 WARBURTON AVENUE	SANTA CLARA	CA	95050
GLORIA	SCIARA	DEVELOPMENT REVIEW OFFICER	CITY OF SANTA CLARA PLANNING DIVISION	1500 WARBURTON AVENUE	SANTA CLARA	CA	95050
YEN	CHEN	STAFF LIAISON/ASSOCIATE PLANNER	HISTORICAL AND LANDMARKS COMMISSION	1500 WARBURTON AVENUE	SANTA CLARA	CA	95047
			CITY OF SANTA CLARA PLANNING DIVISION--COMMUNITY DEVELOPMENT DEPT	1500 WARBURTON AVENUE	SANTA CLARA	CA	95050
DEVON	TODA	COMPLIANCE MANAGER	CITY OF SANTA CLARA	1500 WARBURTON AVENUE	SANTA CLARA	CA	95049
DIANE	FORONDA	WATER RESOURCE PLANNER	CITY OF SANTA CLARA	1500 WARBURTON AVENUE	SANTA CLARA	CA	95050
FREDERICK	CHUN	ASSOCIATE FIRE MARSHAL/HAZARDOUS MATERIALS MANAGER	CITY OF SANTA CLARA--FIRE PREVENTION/HAZARDOUS MATERIALS	1675 LINCOLN STREET	SANTA CLARA	CA	95050
			SANTA CLARA FIRE DEPARTMENT, FIRE STATION 8	2400 AGNEW ROAD	SANTA CLARA	CA	95050
RUBEN	TORRES	FIRE CHIEF	SANTA CLARA FIRE DEPARTMENT, FIRE STATION NO. 1 /FIRE ADMINISTRATION	777 BENTON STREET	SANTA CLARA	CA	95050
ROY	MOLSEED	SENIOR ENVIRONMENTAL PLANNER	SANTA CLARA VALLEY TRANSPORTATION AUTHORITY	3331 NORTH FIRST STREET	SAN JOSE	CA	95134-1927

ARUNA	BODDUNA	ASSOCIATE TRANSPORTATION PLANNER	COUNTY OF SANTA CLARA ROADS AND AIRPORT DEPARTMENT	101 SKYPORT DRIVE	SAN JOSE	CA	95110
MARK	CONNOLLY	PLANNER	SANTA CLARA COUNTY AIRPORT LAND USE COMMISSION	70 WEST HEDDING STREET; EAST WING, 7TH FLOOR	SAN JOSE	CA	95110
KEVIN	KEATING	ELECTRIC DIVISION MANAGER	SILICON VALLEY POWER (CITY OF SANTA CLARA)	1500 WARBURTON AVENUE	SANTA CLARA	CA	95050
GWEN	GOODMAN	KEY CUSTOMER SERVICE REPRESENTATIVE	SILICON VALLEY POWER	1500 WARBURTON AVENUE	SANTA CLARA	CA	95050
KATHERINE	KENNEDY	AIRPORT PLANNER	FEDERAL AVIATION ADMINISTRATION (FAA)	1000 MARINA BOULEVARD, SUITE 220	BRISBANE	CA	94005
			NORMAN Y. MINETA SAN JOSÉ INTERNATIONAL AIRPORT--ADMINISTRATIVE OFFICES, AIRPORT DEPARTMENT	1701 AIRPORT BOULEVARD, SUITE B-1130	SAN JOSE	CA	95110-1206
			DEPARTMENT OF PLANNING, BUILDING, AND CODE ENFORCEMENT--ENVIRONMENTAL REVIEW, PLANNING DIVISION	200 E. SANTA CLARA STREET	SAN JOSE	CA	95113
CARY	GREENE	AIRPORT PLANNER	CITY OF SAN JOSE AIRPORT DEPARTMENT	1701 AIRPORT BOULEVARD, SUITE B-1130	SAN JOSE	CA	95510
JENNIFER	NORRIS		USFWS - SACRAMENTO FISH AND WILDLIFE OFFICE	2800 COTTAGE WAY, ROOM W-2605	SACRAMENTO	CA	95825
GERRY	HAAS		SANTA CLARA VALLEY HABITAT AGENCY	535 ALKIRE AVENUE	MORGAN HILL	CA	95307
RICHARD	MACEDO	BRANCH CHIEF	CDFW HABITAT CONSERVATION PLANNING BRACH	PO BOX 944209	SACRAMENTO	CA	94244-2090
ROBERT	SCHLIPF	WATER RESOURCE CONTROL ENGINEER	SAN FRANCISCO BAY AREA REGIONAL WATER	1515 CLAY STREET, SUITE 1400	OAKLAND	CA	94612

			QUALITY CONTROL BOARD (RWQCB)				
KATHRIN	TURNER	ASSISTANT ENGINEER II	SANTA CLARA VALLEY WATER DISTRICT-- COMMUNITY PROJECTS REVIEW UNIT	5750 ALMADEN EXPRESSWAY	SAN JOSE	CA	95118
			SAN FRANCISCO BAY-DELTA FISH AND WILDLIFE	650 CAPITOL MALL, SUITE 8-300	SACRAMENTO	CA	95814
KRISTIN	GARRISON	ENVIRONMENTAL SCIENTIST	CA. DEPARTMENT OF FISH AND WILDLIFE, BAY DELTA REGION	2825 CORDELIA ROAD, SUITE 100	FAIRFIELD	CA	94534
GREGG	ERICKSON	REGIONAL MANAGER	CDFW, BAY DELTA REGION (REGION 3)	2825 CORDELIA ROAD, SUITE 100	FAIRFIELD	CA	94534

In addition, the following California State governmental agencies received notice of the commenting period for the Initial Study/Proposed Mitigated Negative Declaration and access to the document via the State Clearinghouse Section 15073 distribution process for Reviewing Agencies:

AIR RESOURCES BOARD

CALIFORNIA HIGHWAY PATROL

CALTRANS DISTRICT #4

CALTRANS DIVISION OF AERONAUTICS

CALTRANS PLANNING

FISH & GAME REGION #3

NATIVE AMERICAN HERITAGE COMMISSION

REGIONAL WATER QUALITY CONTROL BOARD #2

RESOURCES AGENCY

STATE WATER RESOURCES CONTROL BOARD: WATER QUALITY

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

DEPARTMENT OF WATER RESOURCES

Appendix D

Letter Affirming City of Santa Clara Acceptance of Responsibility for Mitigation

City of Santa Clara
The Center of What's Possible

Planning Division

April 3, 2020

Leonidas Payne
CEQA Lead Project Manager
California Energy Commission
1516 Ninth Street, MS-40
Sacramento, CA 95814-5512

Re: Mission College Data Center Project Proposed Initial Study/Mitigated Negative Declaration (IS/MND)

Dear Mr. Payne,

Thank you for keeping the City of Santa Clara involved with the environmental process for the proposed Mission College Data Center Project located at 2305 Mission College Boulevard. It is our understanding that the applicant agrees to the mitigation measures for Biological Resources and Geology/Soils in the IS/MND. As the responsible agency, the City agrees to be responsible for mitigation monitoring as delegated by the California Energy Commission and to ensure the implementation of the proposed mitigation measures.

If you have any questions, please contact Debby Fernandez at 408-615-2450 or dfernandez@santaclaraca.gov .

Debby Fernandez

for Gloria Sciara
Development Review Officer/ Zoning Administrator
Planning Division / Community Development Department
1500 Warburton Avenue
Santa Clara, CA 95050

I:\PLANNING\2019\Project Files Active\PLN2019-14213 2305 Mission College Blvd (AC)\CEC mitigation measure acceptance ltr 4.3.2020.docx