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SAN JOSE DATA CENTER

Draft Environmental Impact Report

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CALIFORNIA
ENERGY
COMMISSION
Gavin Newsom,
Governor

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DRAFT ENVIRONMENTAL IMPACT REPORT

San Jose Data Center

(19-SPPE-04)

Lead Agency

California Energy Commission

December 2021

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Section 1

Summary

1 Summary

This environmental impact report (EIR) has been prepared by the California Energy Commission (CEC) to evaluate the potential environmental effects of the development of the San Jose Data Center (SJDC or project), in compliance with the California Environmental Quality Act (CEQA), the CEQA Guidelines, the Warren-Alquist Act, and California Code of Regulations, Title 20 (Small Power Plant Exemptions).

The SJDC includes natural gas-fired generators (to provide emergency backup power) that would constitute a thermal powerplant with a generating capacity in excess of 50 megawatts (MW). The generating capacity of the backup generators would not exceed 100 MW. The CEC has the exclusive authority to certify all thermal power plants (50 MW and greater) and related facilities proposed for construction in California. The Small Power Plant Exemption (SPPE) process allows applicants with facilities between 50 and 100 MW to obtain an exemption from CEC's jurisdiction and proceed with local permitting rather than requiring CEC certification. 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. Public Resources Code section 25519(c) designates CEC as the lead agency, in accordance with CEQA, for all facilities seeking an SPPE.

1.1 Project Summary

Microsoft Corporation (Microsoft or applicant) is seeking an exemption from the CEC's jurisdiction for the SJDC. The applicant proposes to construct and operate the project, located at 1657 Alviso-Milpitas Road in San Jose, California. The project would consist of two single-story data center buildings. To provide reliable operation of the project in the event of loss of electrical service from the local electric utility provider, Pacific Gas and Electric Company (PG&E), the project includes 244 0.45-MW natural gas generators to provide electrical power to support the data center uses during utility outages, certain onsite electrical equipment interruptions or failure, and for load shedding, demand response and behind the meter resource adequacy (RA) ancillary services. The maximum electrical load of the project would be 99 MW, although the estimated load is 77 MW, inclusive of IT equipment, ancillary electrical/ telecommunications equipment, and other electrical loads (administrative, heat rejection, and safety/ security). In addition, the project includes two Tier 4 diesel-powered generators (designated as administrative generators), with a 1.25-MW standby generator for the northern building and a 0.5-MW standby generator for the southern building. The project also includes an onsite 115-kilovolt (kV) substation located in the northwestern corner of the project site with two underground 115-kV electrical supply lines that would connect to PG&E's Los Esteros Substation, located adjacent to the site. The project would require offsite linears for potable water, reclaimed water, stormwater, sanitary sewer, and electrical. No natural gas would be used onsite. Natural gas is also proposed for comfort heating of the data center buildings.

1.2 Summary of Environmental Impacts and Mitigation Measures

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

Below is an overview of the analysis included in **Section 4 Environmental Setting, Environmental Impacts and Mitigation**. Impacts are categorized by the type of impact as follows:

- No Impact. The scenario in which no adverse physical changes to (or impacts on) the environment would be expected.
- Less Than Significant Impact. An impact that would not exceed the defined significance criteria or would be eliminated or reduced to a less than significant level through implementation of the applicant's project measures and/or compliance with existing federal, state, and local laws and regulations.
- Less Than Significant with Mitigation Incorporated. An impact that would be reduced to a less than significant level through implementation of the identified mitigation measure(s).
- Significant and Unavoidable Impact. An adverse effect that meets the significance criteria, but there appears to be no feasible mitigation available that would reduce the impact to a less than significant level. In some cases, mitigation may be available to lessen a given impact, but the residual effects of that impact would continue to be significant even after implementation of the mitigation measure(s).

Staff concludes that with the implementation of the following mitigation measures presented below, potentially significant impacts identified in this EIR would be avoided or reduced to less than significant levels. Staff concluded that impacts in the areas of Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, Geology and Soils (paleontology), Greenhouse Gas Emissions, Hazards and Hazardous Materials, and Transportation would be potentially significant, but with mitigation measures would be reduced to less than significant. Aesthetics, Energy and Energy Resources, Hydrology and Water Quality, Land Use, Noise, and Utilities and Service Systems would have less than significant impacts from the project. Agriculture and Forestry Resources, Mineral Resources, and Wildfire would have no impact from the project. The mitigation measures would be enforced by the appropriate responsible agency under CEQA, which includes the City of San Jose The following summarizes the potential impacts and mitigation as required.

Air Quality. *Less Than Significant with Mitigation Incorporated*. The project would not conflict with or obstruct implementation of the applicable air quality plan. The project would not expose sensitive receptors to substantial pollutant concentrations. The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Air quality impacts during project construction would be reduced with implementation of mitigation measure **AQ-1**. This measure requires incorporation of the BAAQMD's best management practices to control fugitive dust. This measure also incorporates exhaust control measures to reduce emissions from construction equipment. During operation of the engines, the oxides of nitrogen (NOx [as an ozone precursor]) emissions of the standby generators would be fully offset through the permitting process with the BAAQMD. With implementation of these measures during construction and NOx offsets for operations through BAAQMD's permitting requirements, the project would not cause a cumulatively considerable net increase of any criteria pollutant, and impacts would be reduced to a less than significant level.

AQ-1: To incorporate the Bay Area Air Quality Management District (BAAQMD) recommendations for Best Management Practices to control fugitive dust, the project owner shall implement a fugitive dust control plan that has been reviewed and approved by the Director or Director's designee with the City of San Jose Department of Planning, Building, and Code Enforcement prior to the issuance of any grading or building permits, whichever occurs earliest. The project owner shall implement the following measures during construction:

- Minimize fugitive dust generation by watering exposed soils two time per day or as needed.
- Cover truck loads when transporting soil, sand, or other loose materials to or from the site.
- Perform street sweeping to remove all visible mud or dirt track-out onto adjacent public roads at least once per day. The use of dry power sweeping is prohibited.
- Limit onsite vehicle speeds on unpaved surfaces to 15 miles per hour.
- Pave onsite roads and driveways, and sidewalks as soon as possible in the construction schedule.
- Pour foundations for building pads as soon as possible after grading.
- Limit construction equipment idling times to a maximum 5 minutes, or shut equipment down when not in use.
- Maintain and tune construction equipment in accordance with manufacturer's specifications.
- Employ a certified visible emission evaluator to verify that construction equipment is functioning properly.
- Post a publicly visible sign with the telephone number and name of the person to contact regarding dust complaints and the BAAQMD telephone number. The contact person shall implement corrective measures, as needed, within 48 hours, and the

BAAQMD shall be informed of any legitimate complaints received to verify compliance with applicable regulations.

Biological Resources. *Less Than Significant with Mitigation Incorporated*. The project would not adversely affect any species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS), with mitigation incorporated. Staff proposes **BIO-13** entailing development and use of a WEAP to actively train on-site personnel in identifying and avoiding special-status species, **BIO-15** for the Congdon's tarplant, **BIO-16** for the San Francisco dusky-footed woodrat and ringtail cat, **BIO-17** for potential impacts to the salt marsh harvest mouse, **BIO-1** through **BIO-5** for nesting migratory birds, burrowing owl, and mitigation for burrowing owl habitat, **BIO-20** for temporary and permanent losses of agricultural lands (Santa Clara Valley Habitat Plan Fee Zone B) which may provide foraging habitat for special-status species, and **BIO-18** for a one-time nitrogen deposition fee payment (nitrogen deposition may adversely affect special status plants, and in turn, the wildlife dependent upon them).

The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local plans, policies, and regulations or by the CDFW or USFWS, with implementation of the following mitigation measures as proposed by staff: **BIO-7**, a storm water pollution prevention plan, **BIO-13**, **BIO-18**, and **BIO-11** which requires adherence to all state, federal, and local laws with respect to riparian habitat.

Without mitigation, the project could adversely affect state or federally protected wetlands, (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Staff proposes **BIO-8**, requiring a biological monitor, **BIO-9**, requiring limited removal of wetland vegetation and/or trees, **BIO-10**, requiring reseeding with locally native or sterile nonnative species, **BIO-13**, and **BIO-14**, requiring an aquatic resources delineation. **BIO-11** would also be protective of wetlands as the measure requires compliance requirements of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or CDFW for riparian habitats or areas regulated by these agencies. Should onsite wetlands be impacted, staff has further proposed **BIO-19**, a wetland development fee pursuant to the Santa Clara Valley Habitat Plan.

The project would not interfere with the movement of any native resident or migratory fish or wildlife species or established wildlife corridors, or impede the use of native wildlife nursery sites, and would comply with local ordinances and policies regarding use of artificial lighting.

With mitigation, the project would not conflict with any local policies or ordinances protecting biological resources. To avoid conflict with City of San Jose (City) policies and its Municipal Code regarding tree removal and protection of the Heritage Trees, staff proposes measure **BIO-12** specifying protection measures to reduce impacts during project construction. Staff also proposes **BIO-1** specifying pre-construction nesting bird surveys, **BIO-2**, **BIO-3** through **BIO-7**, and **BIO-18** through **BIO-20**. These measures would ensure all impacts are reduced to a less than significant level.

BIO-1: If initial site disturbance activities, including tree, shrub, or vegetation removal, are to occur during the breeding season February 1st to August 31st inclusive, a qualified biologist shall conduct pre-construction surveys for nesting migratory birds onsite and within 250 feet (for raptors) of the site, where accessible. The survey shall occur within 7 days of the onset of ground disturbance if disturbances are to commence between February 1st and June 30th and within 30 days prior to the onset of ground disturbance between July 1st and August 31st. If a nesting migratory bird were to be detected, an appropriate construction-free buffer shall be established in consultation with the California Department of Fish and Wildlife (CDFW) and the Santa Clara Valley Habitat Agency. The actual size of the buffer, which shall be determined by the project's qualified biologist, would depend on species, topography, and type of activity that would occur in the vicinity of the nest. The project buffer would be monitored periodically by the project biologist to verify compliance. After the nest is completed, as determined by the biologist, the buffer would no longer be required. The project owner shall notify the city of San Jose Director of the Department of Planning, Building and Code Enforcement or their designee of a nesting bird within 24 hours of detection, including sharing avoidance (buffer) placement and size.

BIO-2: The SCVHP identifies the project site to be within 250 feet of potentially suitable tricolored blackbird nesting habitat occurring along Coyote Creek. The project applicant shall conduct surveys for tricolored blackbirds within 250 feet of this habitat, where visual access is possible, prior to start of construction following protocols in Condition 17 in Chapter 6 of the SCVHP. Such protocols include the following:

- Prior to any ground disturbance, a qualified biologist shall complete a background assessment to determine if there has been nesting at the site or near the site in the past 5 years. This includes checking the CNDDB, contacting local experts, and looking for evidence of historical nesting (i.e., old nests).
- If nesting in the past 5 years is not evident, the qualified biologist shall conduct a preconstruction survey in areas identified in the habitat survey as supporting potential tricolored blackbird nesting habitat. Surveys shall be made at the appropriate times of year when nesting use is expected to occur and shall document the presence or absence of nesting colonies of tricolored blackbird. Surveys shall conclude no more than 2 calendar days prior to construction, per Condition 17 of Chapter 6 in the SCVHP.
- Should a nesting colony of tricolored blackbirds be located, a 250-foot construction-free buffer shall be established from the edge of all hydric vegetation associated with the nest site and the buffer shall be avoided, and the CDFW and USFWS shall be notified immediately.

- If construction occurs in the project site during the nesting season and when the 250-foot buffer is in place around active nesting habitat, a qualified biologist shall conduct periodic monitoring of the site to confirm that the 250-foot buffer is enforced. The biologist shall have the authority to increase the buffer size if needed based on tricolored blackbird behavior at the active nesting area.
- If active tricolored blackbird nesting occurs within 250 feet of the project site and offsite utility alignment areas and construction occurs during the active nesting period resulting in the need for a buffer, the qualified biologist shall conduct training for construction personnel in avoidance procedures, buffer zones, and safety protocols to verify no impacts to the nest.

The project owner shall notify the city of San Jose Director or their designee, the CDFW, and the USFWS within 24 hours of detection of tricolored blackbird nests and all avoidance measures taken.

BIO-3: To mitigate impacts to occupied burrowing owl habitat, the project applicant shall pay the applicable burrowing owl fee as specified in the SCVHP for each acre of occupied burrowing owl nesting habitat impacted as a result of project buildout. Fees shall also be required from the loss of foraging habitat on the habitat offsite (approximately 64.5 acres). Pursuant to the SCVHP (2012), impacts to both temporary and permanent burrowing owl nesting habitat are (currently) to be mitigated at a rate of $60,825 per acre (SCVHA 2020), however, the project owner must pay the most up-to-date fees as reported by the Santa Clara Valley Habitat Agency. Fees are to be paid to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code enforcement, before or at the time that the grading permit for the project is issued.

BIO-4: The project applicant shall conduct preconstruction surveys to ascertain whether burrowing owls occupy burrows on the site and along the utility alignments offsite prior to construction. The preconstruction surveys shall be performed by a qualified biologist and shall consist of a minimum of two surveys, with the first survey no more than 14 days prior to initial construction activities (i.e. vegetation removal, grading, excavation, etc.) and the second survey conducted no more than 2 days prior to initial construction activities. If no burrowing owls or fresh sign of burrowing owls are observed during preconstruction surveys, construction may continue. However, if a burrowing owl is observed during these surveys, occupied burrows shall be identified by the monitoring biologist and a buffer shall be established, as follows:

- If an active nest is found, a qualified biologist shall study nesting behavior and shall establish at a minimum a 250-foot non-disturbance buffer around all nest sites, based on stress response of the birds and the 2012 Staff Report (CDFW 2012). If the biologist determines that the nest is vacant, the non-disturbance buffer zone may be removed, in accordance with measures described in the SCVHP. The biologist shall supervise hand excavation of the burrow to prevent reoccupation only after receiving approval from the wildlife agencies (CDFW and USFWS) in accordance with Chapter 6, Condition 15 of the SCVHP.

- For permission to encroach within the nest buffer, (February 1st through August 31st), an Avoidance, Minimization, and Monitoring Plan shall be prepared and approved by the City and the wildlife agencies prior to such encroachment in accordance with Chapter 6 of the SCVHP.

An Avoidance, Minimization, and Monitoring Plan shall be prepared, provided to the agencies, and approved by the City Director or their designee and the wildlife agencies prior to nest encroachment in accordance with Chapter 6 of the SCVHP.

BIO-5: Should a burrowing owl be located during the non-breeding season (September through January), a 250-foot buffer shall be established, and construction activities shall not be allowed within the 250-foot buffer of the active burrow(s) used by any burrowing owl unless the following avoidance measures are adhered to:

- A qualified biologist shall monitor the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
- The same qualified biologist shall monitor the owls during construction. If the biologist determines there is a change in owl nesting and foraging behavior as a result of construction activities, these activities shall cease within the 250-foot buffer.
- If the owls are gone from the burrows for at least 1 week, the project applicant may request approval from the habitat agency to excavate all usable burrows within the construction area to prevent owls from reoccupying the site. After all usable burrows are excavated, the buffer zone shall be removed, and construction may continue.

The project owner shall request approval from the Santa Clara Valley Habitat agency to excavate usable, unoccupied burrows within the project site during the non-breeding season.

BIO-6: In the event the voluntary relocation of site burrowing owls does not occur (defined as owls having vacated the site for 10 or more consecutive days), the project applicant can request permission to engage in passive relocation during the non-breeding season through the standard SCVHP application process (Section 6.8 of the SCVHP). If passive relocation is granted, additional measures may be required by the Habitat Agency.

- If the owls voluntarily vacate the site for 10 or more consecutive days, as documented by a qualified biologist, the project applicant could seek permission from the Santa Clara Valley Habitat Agency to have the qualified biologist take measures to collapse vacated and other suitable burrows to confirm that owls do not recolonize the site, in accordance with the SCVHP, by preparing a written request and submitting supporting documentation to the City Director or their designee.

BIO-7: Prior to the start of any grading or other soil disturbing activities, the project applicant shall be required to prepare a Stormwater Pollution Prevention Plan consistent with the City's National Pollutant Discharge Elimination System C3 provisions. The plan shall be submitted to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement.

BIO-8: A qualified biological monitor shall visit the project site daily during utility line construction in the vicinity of the wetland to verify that BIO-7 through BIO-11 are being fully implemented and are effective. Documentation shall be prepared by the biological monitor and made available to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement or the Santa Clara Valley Habitat Agency upon request.

BIO-9: Removal of wetland vegetation and/or trees for the installation of the utility line shall be limited to the minimum extent required. Documentation shall be prepared by the biological monitor and made available to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement or the Santa Clara Valley Habitat Agency upon request.

BIO-10: The project applicant shall verify that all seed mixtures used for revegetation of the impacted wetland area shall be locally native or sterile nonnative species only. No invasive non-native plant species shall be used for revegetation. Documentation shall be prepared by the biological monitor and made available to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement or the Santa Clara Valley Habitat Agency upon request.

BIO-11: The project applicant shall comply with all applicable laws and regulations regarding requirements of the California Department of Fish and Wildlife, United States Army Corps of Engineers, and the Regional Water Quality Control Board for aspects of the project, if any, which fall within those agencies' respective purview, including obtaining any permits required for the construction of the utility lines in the offsite infrastructure alignment areas, as well as compliance with any additional conditions attached to any required permits and monitoring requirements (if any). Copies of the permits, along with an updated Worker Environmental Awareness Program (if necessary per **BIO-13**) shall be available to the Director or their designee with the City of San Jose Department of Planning, Building and Code Enforcement and the Santa Clara Valley Habitat Agency upon request.

BIO-12: Prior to ground disturbance, the project applicant shall ensure that the project site, including linear alignments and the bike path have been surveyed by a certified arborist or biologist and prepare a report. The report, a Tree Protection Plan (TPP), shall be submitted to the Director or Director's designee with the City of San Jose Department of Planning, Building, and Code Enforcement for trees to be preserved. The TPP shall include, but is not limited to, the following:

- Number of trees and location of trees to be protected
- Final landscaping proposal
- Tree Protection Zone (TPZ)

- Size and location of TPZ
- Specific recommendation and suggestions or recommendation for each TPZ if applicable
- Maintenance methodology for tree protection zones during the entire demolition and construction period
- Irrigated schedule
- Pruning schedule for preserved trees, if applicable
- Herbicides and other products recommended to be used on preserved trees

BIO-13: A worker environmental awareness program biological resources module will be conducted for onsite construction personnel prior to the start of construction activities. The module will explain the measure and any other measures developed to prevent impacts on special-status species, including marsh species (saltmarsh common yellowthroat and salt marsh harvest mouse) and nesting birds. The module will also include a description of special-status species and their habitat needs, as well as an explanation of the status of these species and their protection under Endangered Species Act, California Endangered Species Act, and other statutes. A brochure will be provided with color photos of sensitive species, as well as a discussion of any permit measures. A copy of the program and brochure shall be provided for review and approval to Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement and the Santa Clara Valley Habitat Agency at least 30 days prior to the start of construction for project files, and updated as necessary per BIO-11. This includes the following measures:

- Environmental Inspector: A qualified Environmental Inspector shall verify implementation and compliance with all mitigation measures. The Environmental Inspector shall have the authority to stop work or determine alternative work practices
- where safe to do so, as appropriate, if construction activities are likely to affect sensitive biological resources.
- Litter and Trash Management: Food scraps, wrappers, food containers, cans, bottles, and other trash from the project area shall be deposited into closed trash containers. Trash containers shall be removed from the project work areas at the end of each working day unless located in an existing substation, potential staging area, or the switching station site.
- Parking: Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed or developed areas, or work areas as identified in this document.
- Work Areas, Staging Areas: Work, staging, vehicle parking, and equipment parking areas shall be contained within the final areas that are negotiated with the relevant property owners, or as noted above.
- Wetland and Waters Avoidance: Wetlands and waters as identified in the Aquatic Resources Delineation Report shall be avoided during all work activities.

- Pets and Firearms: No pets or firearms shall be permitted at the project site.

BIO-14: An aquatic resources delineation covering the entire project area shall be conducted. All features that are determined to be jurisdictional under the resource agencies shall either be avoided, or the relevant permits shall be obtained for project impacts. Work shall not occur within these jurisdictional features until the relevant permits have been obtained. A delineation report shall be produced and made available to the Santa Clara Valley Habitat Agency and the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement.

BIO-15: Prior to any disturbance of the onsite wetland(s), the authorized biologist shall perform protocol-level surveys for the Congdon's tarplant, during appropriate blooming season. A report shall be prepared and provided to California Department of Fish and Wildlife, the Santa Clara Valley Habitat Agency, and the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement 30 days prior to any disturbance.

BIO-16: Pre-construction survey for San Francisco dusky-footed woodrats and ringtail avoidance.

1. A qualified biologist shall conduct a preconstruction survey for San Francisco dusky-footed woodrat nests and ringtail individuals no more than 30 days prior to the onset of construction activities within 50 feet of construction zones. This survey shall be conducted prior to vegetation removal or initial grading activities.
    a. Non-breeding season nest deconstruction for San Francisco dusky-footed woodrat: Identified nests of the San Francisco dusky-footed woodrat shall be avoided, where possible. If avoidance is not possible, the nest(s) shall be manually deconstructed under supervision of a qualified biologist when helpless young are not present, typically during the nonbreeding season (October through January).
    b. Breeding season temporary buffer for San Francisco dusky-footed woodrat: If it is determined that San Francisco dusky-footed woodrat young may be present during the pre-construction survey (e.g. during the breeding season), a suitable buffer shall be established around the nest until the young are independent enough to successfully move from the nest.
2. Avoidance of ringtail. If an individual ringtail is identified within the project site during preconstruction surveys, a follow-up survey shall be conducted within 12- hours of project initiation. If a ringtail is identified during the second survey, the project biologist shall continue to monitor the ringtail to ensure that the individual has moved out of any areas of potential danger of its own volition. Project activities can only commence once the project biologist has determined that the identified animal has moved outside of potential danger from project actions.

A report shall be prepared and provided to CDFW, the Santa Clara Valley Habitat Agency, and the City Director or their designee 30 days prior to any disturbance.

BIO-17: Temporary disturbance to and permanent loss of salt marsh harvest mouse habitat shall be avoided to the maximum extent practicable. Although avoidance of wetland impacts is described, further attempts to avoid impacts to potentially suitable habitat shall be made. Prior to the issuance of building permits, all temporary staging areas and construction access roads shall be located away from suitable habitat for this species and limits of all wetlands that are to be avoided shall be clearly demarcated by a qualified biologist with Environmentally Sensitive Area fencing to avoid inadvertent disturbance of any habitat outside of the designated construction areas during construction activities.

Prior to issuance of grading permits and under the supervision of a qualified biological monitor, a barrier to exclude salt marsh harvest mice from impact areas shall be installed at the perimeter of all project construction areas that are located within 50 feet of potential salt marsh harvest mouse, and checked weekly by the qualified biologist for any breaches, rips, or tears. This barrier, which shall be constructed under the guidance of a qualified biologist, shall consist of a 3-foot tall, tight cloth or smooth plastic silt fence toed into the soil at least three inches deep and supported with stakes.

Documentation of this mitigation measure shall be provided to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code enforcement 30 days prior to any disturbance, and made available to the Santa Clara Valley Habitat Agency upon request.

BIO-18: Pursuant to the 2012 Santa Clara Valley Habitat Plan (SCVHP) (Chapter 6 and Section 9, Table 9-7b), prior to any ground disturbance, a one-time fee payment for new daily vehicle trips shall be paid for mobile emission sources, as based on the appropriate fees and worksheet (year current to construction) in the 2020 SCVHP, or most recent Nitrogen Deposition Fee Worksheet. Fees are paid to the Santa Clara Valley Habitat Agency.

BIO-19: Prior to (and only if) the onsite wetlands are developed or impacted; mitigation fees pursuant to the Santa Clara Valley Habitat Plan Table 9-11 must be paid to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code enforcement.

BIO-20: The project owner shall pay, before or at the time that the grading permit for the project is issued, temporary and permanent impact fees for loss of habitat onsite and along the project linears and road improvements, as necessary and appropriate for construction and temporary impacts. Currently, Fee Zone B, pursuant to SCVHA (202) is valued at $15,043 per acre, subject to updated fee calculations as available from the SCVHA.

Cultural and Tribal Cultural Resources. *Less Than Significant with Mitigation Incorporated*. The project would not impact any known resources that could meet CEQA's criteria for historical resources, unique archaeological resources, or tribal cultural resources. However, previous cultural resources studies in the project area indicate that buried archaeological or ethnographic resources could be encountered during ground disturbing activities at the site. Staff recommends a series of mitigation measures, **CUL-1** through **CUL-6**, to address the discovery of previously unknown buried cultural resources, including human remains. In addition, **CUL-1** proposes to require monitoring by both a qualified archaeological resources specialist and a Native American monitor, and implement a WEAP. With implementation of these mitigation measures, potential impacts on cultural and tribal cultural resources would be reduced to a less than significant level.

CUL-1: Prior to the commencement of construction, the applicant will secure the services of qualified archaeological specialists and Native American monitors. These specialists and monitors will prepare a WEAP [workforce environmental awareness program] to instruct construction workers of the obligation to protect and preserve valuable archaeological and Native American resources for review and approval by the Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement (PBCE). This program will be provided to all construction workers via a recorded presentation and will include a discussion of applicable laws and penalties under the laws; samples or visual aids of resources that could be encountered in the project vicinity; instructions regarding the need to halt work in the vicinity of any potential archaeological and Native American resources encountered; and measures to notify their supervisor, the applicant, and the specialists. Submit the qualifications of archaeological specialists and Native American monitors, as well as an electronic copy of the WEAP to the Director or Director's designee of the City of San Jose PBCE for review and approval.

The applicant will secure the services of a Native American monitor to observe grading of native soil once all pavement is removed from the project site. Preference in selecting Native American monitors shall be given to Native Americans with:

1. Traditional ties to the area being monitored.
2. Knowledge of local historic and prehistoric Native American village sites.
3. Knowledge and understanding of Health and Safety Code, section 7050.5, and Public Resources Code, section 5097.9 et seq.
4. Ability to effectively communicate the requirements of Health and Safety Code, section 7050.5, and Public Resources Code, section 5097.9 et seq.
5. 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.
6. Ability to travel to project sites within traditional tribal territory.
7. Knowledge and understanding of Title 14, California Code of Regulations, section 15064.5.

8. Ability to advocate for the preservation in place of Native American cultural features through knowledge and understanding CEQA mitigation provisions.
9. 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.
10. Knowledge and understanding of archaeological practices, including the phases of archaeological investigation.

CUL-2: Prior to the issuance of any grading permit, the project will be required to complete subsurface testing to determine the extent of possible resources onsite. Subsurface testing shall be completed by a qualified archaeologist. Based on the findings of the subsurface testing, an archaeological resources treatment plan shall be prepared by a qualified archaeologist and submitted to Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement for approval prior to the issuance of grading permits.

CUL-3: Prior to ground disturbance, the project will implement the approved treatment plan prior to the issuance of grading permits. The approved treatment plan will utilize data recovery methods to reduce impacts on subsurface resources.

CUL-4: All prehistoric and historic-era features identified during exploration will be evaluated by a qualified archaeologist based on the California Register of Historical Resources criteria consistent with the archaeological treatment plan. After completion of the field work, all artifacts will be cataloged, and the appropriate forms will be completed and filed with the Northwest Information Center of the California Archaeological Inventory at Sonoma State University by the qualified archaeologist in coordination with the Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement prior to issuance of occupancy permits (temporary or final).

CUL-5: In the event that prehistoric or historic resources are encountered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped, the Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement (PBCE) shall be notified, and a qualified archaeologist will examine the find. The archaeologist will evaluate the find(s) to determine if they meet the definition of a historical, archaeological, or tribal cultural resource and make appropriate recommendations regarding the disposition of such finds prior to issuance of building permits for any construction occurring within the above-referenced 50-foot radius. If the finds do not meet the definition of a historical, archaeological, or tribal cultural resources, no further study or protection is necessary prior to project implementation. If the find(s) does meet the definition of a historical, archaeological, or tribal cultural resource, then it will be avoided by project activities. If avoidance is not feasible, adverse effects to such resources will be mitigated in accordance with the recommendations of the archaeologist. Recommendations will include collection, recordation, and analysis of any significant cultural materials. A report of findings documenting any data recovery shall be submitted to the Director or Director's designee of the City of San Jose PBCE, NAHC (tribal cultural resources) and the Northwest Information Center.

The project applicant will ensure that construction personnel do not collect or move any cultural material and will ensure that any fill soils that may be used for construction purposes does not contain any archaeological materials.

CUL-6: In the event that human remains are discovered during 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 shall be notified immediately and will 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 shall notify the Native American Heritage Commission (NAHC) within 24 hours of the identification. Once the NAHC identifies the most likely descendants (MLD), the descendants will make recommendations regarding proper burial (including the treatment of grave goods), which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines. The archaeologist will recover scientifically-valuable information, as appropriate and in accordance with the recommendations of the MLD. A report of findings documenting any data recovery shall be submitted to the Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement and the Northwest Information Center.

Geology and Soils (paleontology). *Less Than Significant with Mitigation Incorporated*. Construction would temporarily increase sedimentation and erosion by exposing soils to wind and runoff until construction is complete and new vegetation is established. The city's National Pollutant Discharge Elimination System Municipal Permit, urban runoff policies, and the Municipal Code are the primary means of enforcing erosion control measures through the grading and building permit process. In accordance with General Plan policies, implementation of the regulatory programs and policies in place would reduce possible impacts of accelerated erosion during construction to a less than significant level. Continuous operation and maintenance work would not result in increased erosion or topsoil loss. The probability that construction or operationAs the project site is relatively flat with no open faces or slopes near the site, there is low potential for landslides. A project-specific geotechnical engineering report, along with the final project design, would be required to address, as needed, any potential issues arising from expansive soils, liquefaction, unstable geologic or soil units that could result from construction of this project. With implementation of applicable design criteria per the California Building Standards Code, as well as the incorporation of the anticipated project-specific mitigation recommendations in the final geotechnical engineering report, seismic hazards would be minimized, to the extent feasible with conformance to the applicable seismic design criteria of the California Building Standards Code located on expansive soil such that it would create substantial direct or indirect risks to life or property, and therefore impacts would be less than significant. Earth moving during project construction has the potential to disturb paleontological resources. Staff proposes **GEO-1**, to train construction personnel and guide recovery and processing of any significant paleontological finds. Staff concludes that with implementation of **GEO-1**, impacts to unique paleontological resources would be reduced be to a less than significant level.

GEO-1:

- The applicant will secure the services of a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology, to be on-call prior to the commencement of construction. The paleontologist will be experienced in teaching non-specialists to recognize fossil materials and how to notify in the event of encountering a suspected fossil. If suspected fossils are encountered during construction, the construction workers will halt construction within 50 feet of any potential fossil find and notify the paleontologist, who will evaluate its significance.
- If a fossil is encountered and determined to be significant and avoidance is not feasible, the paleontologist will develop and implement an excavation and salvage plan in accordance with Society of Vertebrate Paleontology standards. Construction work in the immediate area will be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected will be cleaned, repaired, sorted, and cataloged, along with copies of all pertinent field notes, photos, and maps.
- The paleontologist will prepare a paleontological resource monitoring report that outlines the results of the monitoring program and any encountered fossils. The report would be submitted to the Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement (PBCE) for review and approval. The report and any fossil remains collected will be submitted to a scientific institution with paleontological collections.
- Prior to the commencement of construction, the applicant will secure the services of a qualified paleontological specialist. The specialist will prepare a Worker Environmental Awareness Program to instruct site workers of the obligation to protect and preserve valuable paleontological resources for review by the Director or Director's designee of the City of San Jose PBCE. This program will be provided to all construction workers via a recorded presentation and will include a discussion of applicable laws and penalties under the laws; samples or visual aids of resources that could be encountered in the project vicinity; instructions regarding the need to halt work in the vicinity of any potential paleontological resources encountered; and measures to notify their supervisor, the applicant, and the specialists.

Greenhouse Gas Emissions. *Less Than Significant with Mitigation Incorporated*. The greenhouse gas (GHG) emissions from the facility's stationary sources would have average annual GHG emissions that would exceed the 10,000 $MTCO_2e$/yr BAAQMD significance threshold for GHG emissions from stationary sources. This represents a potentially significant impact that requires mitigation. Staff recommends mitigation measure **GHG-1** to require the SJDC project stationary sources to use renewable fuels to ensure that operation of the generators would not hinder California's efforts to achieve 2030 or 2045 GHG reduction goals and to bring the facility's stationary source emissions below the BAAQMD significance threshold. With this measure, the project's GHG emissions from stationary sources would not have a significant direct or indirect impact on the environment.

The City of San Jose's GHG Reduction Strategy is a Qualified Climate Action Plan under CEQA. This project would comply with the requirements of that plan with implementation of **GHG-2**, which would require the applicant to participate in San Jose Clean Energy at the Total Green level. Participating at the Total Green level would allow the project to comply with the renewable energy development component of the City's 2030 GHGRS. Therefore, staff proposes **GHG-2** to require the project owner to participate in San Jose Clean Energy at the Total Green level, or negotiate an electricity contract with San Jose Clean Energy that accomplishes the same goals as the Total Green level, to ensure compliance with the City's 2030 Greenhouse Gas Emissions Reduction Strategy.

Pursuant to California Code of Regulations, title 14, section 15183.5, the CEC may rely on that compliance in its analysis of GHG emissions impacts. Accordingly, staff concludes with implementation of **GHG-2**, the project's GHG emissions would not have a significant direct or indirect impact on the environment. With implementation of the efficiency measures to be incorporated into the project, and **GHG-2**, GHG emissions related to the project would not conflict with the City's GHG Reduction Strategy or other plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs. Because the project would be consistent with applicable plans and policies adopted to reduce GHG emissions and would comply with all regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions, the potential for the project to conflict with an applicable plan, policy or regulation for GHG reductions would be less than significant. With implementation of **GHG-2**, impacts related to GHG emissions would be reduced to less than significant.

GHG-1: The project owner shall exclusively use renewable natural gas and renewable diesel in the natural-gas fired and diesel-fired generators, which may require securing renewable fuel from PG&E and other suppliers. The project owner shall provide documentation to the Director or Director's designee with the City of San Jose Planning, Building and Code Enforcement (PBCE) to verify that renewable fuels are used for 100 percent of total energy use by the generators upon commencing operation of the project.

GHG-2:

- The project owner shall participate in the San Jose Clean Energy (SJCE) at the Total Green level (i.e., 100 percent carbon-free electricity) for electricity accounts associated with the project, or shall negotiate an electricity contract with SJCE that accomplishes the same goals as the Total Green level, to ensure compliance with the City's 2030 Greenhouse Gas Emissions Reduction Strategy.
- The project owner shall provide documentation to the Director or Director's designee with the City of San Jose Planning, Building and Code Enforcement (PBCE) of enrollment and annual reporting of continued participation in the SJCE Total Green

level. If not enrolled in SJCE Total Green level, the project owner shall provide documentation and annual reporting to the Director or Director's designee with the City of San Jose PBCD that confirms that alternative measures achieve the same 100 percent carbon free electricity as the SJCE Total Green level, with verification by a qualified third-party auditor specializing in greenhouse gas emissions.

- During operation, the project owner shall submit annual reports to the Director or Director's designee with the City of San Jose PCBE documenting either continued participation in SJCE at the Total Green level or documentation that alternative measures continue to provide 100% carbon-free electricity, as verified by an independent third-party auditor specializing in greenhouse gas emissions.

Hazards and Hazardous Materials. *Less Than Significant with Mitigation Incorporated*. 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. The transportation of the diesel fuel to the site would take a few tanker truck trips for the initial fill and during operation, one fuel truck delivery would occur every three months. Diesel fuel has a long history of being routinely transported and used as a common motor fuel. 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.

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. In addition, there would be engineering controls for the diesel and natural gas hazardous materials such as a double walled tank for the diesel fuel and leak detection and shut off valves for the natural gas that would mitigate the risk of a spill or release. 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**.**

Ground disturbing activities associated with the removal of underground utilities, and construction of the project would have the potential to encounter the identified contaminated soil. Staff proposes mitigation measures requiring the preparation of a Site Management Plan to establish proper procedures to be taken when contaminated soil is found and how to dispose of the contaminated soil properly (**HAZ-1**) and a Health and Safety Plan to establish provisions for personal protection and procedures if contaminated soil is encountered (**HAZ-2**). Staff concludes that with implementation of **HAZ-1** and

HAZ-2, impacts to the public or the environment due to contaminated soils, would be reduced to a less than significant level.

HAZ-1: A Site Management Plan (SMP) shall be prepared and implemented and any contaminated soils found in concentrations above established thresholds shall be removed and disposed of according to California Hazardous Waste Regulations or the contaminated portions of the site shall be capped beneath the planned development under the regulatory oversight of the Santa Clara County Hazardous Materials Compliance Division (HMCD) or the California Department of Toxic Substances Control (DTSC). The contaminated soil removed from the site shall be hauled off-site and disposed of at a licensed hazardous materials disposal site.

Components of the SMP shall include, but shall not be limited to:

- A detailed discussion of the site background;
- Preparation of a Health and Safety Plan by an industrial hygienist;
- Notification procedures if previously undiscovered significantly impacted soil or free fuel product is encountered during construction;
- Onsite soil reuse guidelines based on the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region's reuse policy;
- 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.

HAZ-2: All contractors and subcontractors at the project site shall develop a Health and Safety Plan (HSP) specific to their scope of work and based upon the known environmental conditions for the site. The HSP shall be approved by the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement (PBCE) and the City of San Jose Environmental Services Department (ESD) and implemented under the direction of a Site Safety and Health Officer.

The HSP shall include, but shall not be limited to, the following elements, as applicable:

- Provisions for personal protection and monitoring exposure to construction workers;
- Procedures to be undertaken in the event that contamination is identified above action levels or previously unknown contamination is discovered;
- Procedures for the safe storage, stockpiling, and disposal of contaminated soils;
- Provisions for the onsite management and/or treatment of contaminated groundwater during extraction or dewatering activities; and
- Emergency procedures and responsible personnel.

The SMP shall be submitted to HMCD, DTSC, or equivalent regulatory agency for review and approval. Copies of the approved SMP shall be provided to the PBCE Supervising Environmental Planner and Environmental Services Department (ESD) prior to issuance of grading permits.

Noise. *Less Than Significant with Mitigation Incorporated*. While the City Municipal Code does not specify a threshold for construction noise level increases to be considered an impact, staff considers an increase of 10 dBA or more during the day to be an impact because it can trigger a community reaction and therefore warrants additional measures to address. Staff found that construction activities could elevate noise levels at businesses nearest the project site by 10 dBA or more. With implementation of staff's proposed **NOI-1** requiring a complaint and redress process be implemented, the project's construction noise impact would be less than significant.

Staff calculated the projected operational noise levels at the nearby commercial building and residences and concluded that the increases in noise levels at those receptors due to project operation would be no more than 3 dBA. Staff also found that the projected noise levels both at the closes businesses and residences would be within the respective noise levels specified by the City Code for those uses, therefore, there would be no significant noise impact due to project operation.

Sources of groundborne vibration associated with project operation would include the backup generators and rooftop equipment. These pieces of equipment would be 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 equipped with specifications that ensure sufficient exhaust silencing to reduce vibration. Therefore, vibration impacts due to project operation would be less than significant.

The project site is not in the vicinity of a private airport and it would not place sensitive land uses within an airport noise contour (the site is 13.4 miles from the Norman Y. Mineta San Jose International Airport). Thus, the project would not combine with the airport to expose people to excessive noise levels.

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

- Prior to the start of project construction, identify a noise control disturbance coordinator. The disturbance coordinator will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g. starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented.
- Establish a telephone number for the disturbance coordinator and post it on the construction site.

- Prior to the start of construction, submit to the Director or Director's designee with the City of San Jose Planning, Building and Code Enforcement (PCBE), for review and approval, the schedule of "noisy" construction activities with the telephone number of the disturbance coordinator.
- Prior to the start of construction and after approval by the City of San Jose PCBE, notify the businesses located south of the project site immediately across Highway 237 and the businesses located within 1,000 feet of the project's southeastern boundary, of the construction schedule, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses. Include in the notice, the telephone number for the project's noise disturbance coordinator.

Transportation. *Less Than Significant with Mitigation Incorporated*. Project construction would not significantly obstruct any transit, roadway, bicycle, or pedestrian facilities in the area. Construction activities would occur mostly onsite and not in the public right-of-way, with the exceptions of a Class I Bikeway Trail extension connecting the existing trail Coyote Creek segment to the new Nortech Parkway extension; interconnection to water and transmission lines west of the project site; two independent natural gas pipelines (approximately 75 feet in length) at the southern border of the project; and several roadway improvements along Zanker Road. In addition, Nortech Parkway extension would be constructed east of Zanker Road to provide direct access to the site. Project construction would not otherwise temporarily or permanently alter any public roadways or intersections. Project operation would occur on-site.

The project would not result in hazards to aircraft from either a geometric design feature, such as structure height, or incompatible uses, including land uses or thermal plumes. The project would not increase any other hazards. Emergency vehicle access would be provided by two driveways, one at the northern boundary of the site and the other at the southern boundary of the site. The project would not physically block any access roads or result in traffic congestion that could significantly compromise timely access to this facility or other facilities located within the project vicinity during construction and operation.

Project-generated vehicle miles traveled (VMT) per employee would exceed the City's industrial threshold of 14.37 VMT per employee. Staff proposes **TRA-1,** which requires the project owner to implement multi-modal infrastructure improvements, a parking reduction measure and Transportation Demand Management (TDM) measures, to reduce the project VMT to a less than significant level. Staff concludes that with implementation of **TRA-1** to lower project generated VMT to a level below the city's industrial VMT threshold, impacts to VMT would be reduced to a less than significant level.

TRA-1: Prior to the issuance of any City of San Jose Public Works clearances, the project shall implement the following:

- Increase Roadway Network Connectivity – The project owner shall construct a new street (an extension of Nortech Parkway) that shall extend east from Zanker Road and provide access to the project site. The new intersection created at Zanker Road/Nortech Parkway shall be signalized and shall be located approximately 400 feet north of the Zanker Road/ThomasFoon Chew Way intersection.

- Traffic Calming Measures – The project owner shall construct a raised median island along Zanker Road between the new Nortech Parkway extension and the SR 237 westbound off-ramp.
- Pedestrian Network Improvements – Pedestrian improvements at the new signalized intersection of Zanker Road and Nortech Pakway shall include striped crosswalks and pedestrian signals and push buttons. Sidewalks shall be included along both sides of Nortech Parkway.
- Bike Access Improvements – The project owner shall construct a Class I Bikeway Trail extension along the east side of Zanker Road (within the City's right-of-way), connecting the existing trail segment with the new Nortech Parkway extension. Bike lanes shall be included along both sides of Nortech Parkway.
- Limit Parking Supply – The project owner shall provide 122 vehicle parking spaces, which is 63 fewer spaces than what the City of San Jose Municipal Code requires. The project owner shall request a parking exception from the Director or Director's designee with the City of San Jose Planning Department Planning, Building, and Code Enforcement to qualify for the parking reduction.
- End of Trip Bike Facilities – The project shall provide and maintain bike facilities for active alternative transportation users of the project. End of trip bike facilities shall include bike parking, bike lockers, showers, and personal lockers.
- Commute Trip Reduction Marketing and Education – The project owner shall prepare and submit a Transportation Demand Management (TDM) plan for review and approval to the city of San Jose Public Works Department. As part of the TDM plan the project owner shall implement a marketing campaign targeting all employees that encourages the use of shared rides and active modes of transportation. Marketing strategies shall include new employee orientation on alternative commute options, event promotions, and publications. The project owner shall provide information and encourage the use of public transit, shared ride modes, and active modes to reduce drive-alone commute trips.

Summary

The CEC determines whether the project qualifies for an SPPE and if the project is granted the exemption, the project would seek permits from the local responsible agencies.

1.3 Summary of Alternatives to the Project

CEQA requires that an EIR identify alternatives to the project as proposed and evaluate their comparative merits. CEQA Guidelines Section 15126.6 states that an EIR must describe a "reasonable range of potentially feasible alternatives," focusing on those that "would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant environmental effects of the project." Based on the requirements of CEQA and the summary of environmental impacts presented above, this EIR describes and analyzes two alternatives to the proposed project. A summary of project alternatives follows. A full analysis of project alternatives is provided in **Section 5 Alternatives**, along with a description of other alternatives considered but not carried forward for full analysis.

1.3.1 Tandem Battery Energy Storage Alternative

Staff evaluated a battery energy storage system in tandem (Tandem BESS) with natural gas generators alternative. Such an option would allow the batteries to act as primary backup power for short outage durations, and the generators would provide backup power when outages are longer in duration and the batteries are discharged. While there are no unmitigated significant impacts with the proposed SJDC, the Tandem BESS Alternative would potentially lessen the proposed project's impacts identified in this EIR, except for increasing the possibility of fire from the battery energy storage system. If this alternative were constructed, impacts could be mitigated to a less than significant level. For these reasons, the Tandem BESS Alternative is considered *potentially environmentally superior* to the proposed project to the extent discharge of the batteries prevents operations of the generators that would have occurred, and the generators are not later used to charge the batteries. Under this alternative, the project and operating characteristics would need to be redesigned, which might pose feasibility issues. Two of the applicant's objectives are to meet the continuing need for a data center to support the San Jose region's growing business and work force population and ensure the data center achieves reduced access latency. If this alternative were selected, the redesign necessary for the SJDC project would no doubt delay the SJDC proposed online date and thus delay the applicant's ability to meet the continuing need for data centers.

1.3.2 No Project Alternative

Staff evaluated a No Project scenario in which no development of the project site would occur, and current conditions would continue at the site for an unknown period. Although a different project could be proposed at the site in the future, no development plan exists to allow a comparison with the proposed project, and it would be speculative to assume the characteristics of such an alternative. The No Project Alternative would avoid the proposed project's potentially significant impacts identified in this environmental impact report (EIR) (no impact compared to the proposed project), and therefore would be *environmentally superior*. If the project were not constructed, the applicant's project objectives would not be attained.

1.4 Known Areas of Controversy

The CEC issued a Notice of Preparation on February 1, 2021, seeking input from responsible and trustee agencies and the public regarding the scope and context of environmental areas in the EIR. CEC staff also hosted a public scoping meeting on February 19, 2021, during which environmental areas with potential significant impacts were discussed and comments heard. The comment period began on February 1, 2021 and ended on March 2, 2021. In total, five comment letters were received[1]. Issues of concern reflected in these letters and emails include, but are not limited to, the following:

- Air Quality and Greenhouse Gas Emissions (GHG):
  - Because the project is located in the Alviso neighborhood[2], a high cumulative exposure area identified through CalEPA's CalEnviroScreen mapping tool, the Bay Area Air Quality Management District (BAAQMD) is concerned about the potential for any increase in emissions that could result from the project.
  - Highly recommend the CEC consider requiring the project applicant to use the cleanest available technologies and fuels possible during all phases of the project, including zero-emission sources for energy and backup generation as well as the lowest-Global Warming Potential refrigerants available for the cooling system
  - The GHG impact analysis should include an evaluation of the project's consistency with the most recent draft of the AB 32 Scoping Plan by the California Air Resources Board and with the State's 2030, 2045, and 2050 climate goals.
  - The EIR should estimate and evaluate the potential health risk to existing and future sensitive populations within and near the project area from toxic air contaminants (TAC) and fine particulate matter (PM2.5) as a result of the project's construction and operation.
  - The EIR should include various scenarios of backup power generation operations beyond routine testing and maintenance.
  - The EIR should evaluate all feasible measures, both onsite and offsite, to minimize air quality and GHG impacts.
  - The EIR should evaluate the Project's consistency with the Air District's 2017 Clean Air Plan (2017 CAP).
  - Please provide disclosure of communication between CEC and BAAQMD staff pertaining to the updates to the Air District's CEQA Air Quality Thresholds and Guidelines and the approach for this project.
  - Please include cumulative and existing health risks, toxic air contaminants, PM2.5 levels, diesel particulate matter, including the most recent cancer rates, CalEnviroScreen results, and sensitive receptors in Alviso.
  - Disclose the DEIR's methodology to address the 2108 *Sierra Club v. County of Fresno*, 6 Cal.5th 502 (Friant Ranch) for the health effects for criteria pollutants.

1 Comment letters were received from Ada Marquez and Marc Espinosa, Marc Espinosa, BAAQMD, Native American Heritage Commission, and California Department of Fish and Wildlife – Bay Delta Region.
2 The project, proposed at 1657 Alviso-Milpitas Road, is approximately 2.5 miles east the community of Alviso.

- The DEIR must comply with the City of San Jose Municipal Codes, Envision San Jose 2040 General Plan pertaining to air quality and health risks, and the Alviso Master Plan.
- Microsoft committed in January of 2020 to become a carbon negative company by 2030 and by 2050 "remove from the environment all the carbon that Microsoft has emitted directly or through electricity use since the company was founded in 1975"[3]. The community and decision-makers in the City of San Jose must have full disclosure whether this commitment will follow through in Alviso, as well.

- Alternatives:
  - The EIR should include a robust alternatives analysis, with consistent application of analytical standards and substantiation of claims.
  - Per §15126.6, the DEIR must include project alternatives governed by rule of reason which is rigorous to "foster meaningful public participation and informed decision making" and includes alternative locations to mitigate any potential significant impacts.
- Biological Resources:
  - Existing conditions seem to consist of open land with ruderal grass and herbaceous vegetation. There are known western burrowing owl (*Athene cunicularia*, State Species of Special Concern) occurrences within 0.2 mile of the site, and the site could potentially contain western burrowing owl foraging and/or nesting habitat. Recommended mitigation measures include habitat assessment, burrowing owl surveys, burrowing owl avoidance, and compensatory mitigation. (Specific language for the measures were submitted with the comment, TN 236949).
  - Special-status avian species may be present within the Coyote Creek riparian area include tricolored blackbird (*Agelaius tricolor*, State Threatened), white-tailed kite (*Elanus leucurus*, State Fully Protected), and San Francisco common yellowthroat (*Geothlypis trichas sinuosa*, State Species of Special Concern). Recommended mitigation measures include nesting bird surveys and active nest buffers. (Specific language for the measures were submitted with the comment, TN 236949).
  - A wetland complex contiguous to tidal wetlands is located immediately north of the project site. Salt-marsh harvest mouse (SMHM; *Reithrodontomys raviventris*, State Endangered and Fully Protected, Federal Endangered) occurrences are located within 0.9 mile of this wetland complex, and these wetlands may also provide habitat for SMHM. If SMHM are present within these wetlands, they could potentially enter the project work area. As a Fully Protected Species (Fish and Game Code section 4700), SMHM may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these

3 One year later: The path to carbon negative – a progress report on our climate 'moonshot', https://blogs.microsoft.com/blog/2021/01/28/one-year-later-the-path-to-carbon-negative-a-progress-report-on-our-climate-moonshot/

species for necessary scientific research. CDFW therefore recommends that the draft EIR include a complete habitat assessment for SMHM within the proposed project area and surrounding wetlands, and include appropriate and effective avoidance measures in the draft EIR if SMHM could be impacted by Project activities.

- The analysis must disclose short-term, long-term, direct, indirect, and cumulative impacts of habitat loss and listed protected, and endemic species, both locally in Alviso and regionally per the City of San Jose, SCVHCP, State, and Federal regulations. For example, Alviso which is located adjacent to the San Francisco Bay Don Edwards Wildlife Refuge is a biological hotspot and one of the few remaining locations for burrowing owls, golden eagles nesting nearby to this project site which is recorded in the valley for the first time in 128 years, and the congdon tarplant
- The analysis must disclose short-term, long-term, direct, indirect, and cumulative impacts of habitat loss and listed protected, and endemic species, both locally in Alviso and regionally per the City of San Jose, SCVHCP, State, and Federal regulations. For example, Alviso which is located adjacent to the San Francisco Bay Don Edwards Wildlife Refuge is a biological hotspot and one of the few remaining locations for burrowing owls, golden eagles nesting nearby to this project site which is recorded in the valley for the first time in 128 years, and the congdon tarplant (§15380, CA Migratory Bird Protection Act, The Bald and Golden Eagle Protection Act, CDFW code 1601-1603, 3503, 3503.5, 3513, 3800).

- General:
  - The DEIR must disclose all documents used for tiering and the nexus with this proposed Project §15150, 15151, 15152, 15153. Some examples include the City of San Jose's DEIR (2017) 237 Industrial Center Project, City of San Jose's General Plan, and the City of San Jose's Alviso Master Plan.
- Land Use:
  - The DEIR should address SB 1000, consistency with the General Plan, and the Alviso Master Plan.
- Transportation:
  - Alviso has significant traffic impacts on neighborhood streets from past, current, and future developments. The nearby highways 237 and 880 exacerbate local traffic impacts from passenger vehicles and truck traffic. The community requests both short- and long-term analysis with the most current traffic data from the City of San Jose, Valley Transportation Agency (VTA), Caltrans, and with real time field studies and effective mitigations and monitoring. (§15064, 15064.4)
- Tribal Cultural Resources:
  - Ensure that the CEC complies with Assembly Bill 52 (includes tribal consultation requirements) in its review of the proposed project.

In addition to the comments received during the NOP comment period, several comments were received during the development of the Draft EIR. Comments and concerns include: air quality and a request from the Santa Clara County Department of Parks and Recreation that the construction of the proposed Coyote Creek/Llagas Sub-Regional Trail is included as part of the project. During the applicant's consultation with the City of San Jose, it was determined that the proposed location of the Class 1 bike improvements along Zanker Road to the Nortech Parkway extension was the preferred route.

Staff has reviewed and considered the comments received and address them as appropriate in the applicable section.

1.5 Issues to be Resolved

Staff concluded that all potentially significant impacts can be mitigated to a less than significant level. There are no remaining issues to be resolved.

Section 2

Introduction

2 Introduction

2.1 Energy Commission Jurisdiction and the Small Power Plant Exemption 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. Under the authority of Public Resources Code, Section 25541, the CEC has a regulatory process, referred to as the Small Power Plant Exemption (SPPE) process, which allows applicants with projects 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 project would not create a substantial adverse impact on the environment or energy resources. See **Appendix A** for more information about the project's jurisdictional and generating capacity analysis.

2.2 CEQA Lead Agency

In accordance with Public Resources Code, section 25519(c) 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, the local permitting authorities—in this case the City of San Jose and the Bay Area Air Quality Management District—would perform any follow-up CEQA analysis and impose mitigation, as necessary, for granting approval of the project.

2.3 Purpose of the Environmental Impact Report

The purpose of this environmental impact report (EIR) is to provide agency decision makers and the public with objective information regarding the project's significant effects on the environment and energy resources, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. This information will be used by the CEC Commissioners in considering the applicant's request for an SPPE to exempt the project from CEC's power plant licensing jurisdiction and the responsible agencies for project approval and permitting.

Unlike most development project approval processes, the discretionary decision being considered by the CEC is not approval of the applicant's actual project, but whether such approval can be considered by the City of San Jose. In other words, can the project be exempted from the CEC's exclusive jurisdiction over such a facility? While the CEC's environmental analysis assesses the applicant's project to support the CEC's jurisdictional decision and uses the term "project" to reference the data center and backup generators, it is important to remember that the CEC's discretionary decision is limited to determining the appropriate permitting authority and not approval of the project. This situation is unique as most EIRs and discretionary agency decisions revolve around a decision to permit or deny the project subject to the environmental review, i.e., an assessment of the environmental impacts of a construction project or land use plan and a decision on whether to approve the project or plan.

Upon exempting the project, the CEC would have no permitting authority over the project and would not be responsible for any mitigation or permit conditions imposed by the City of San Jose or other local agencies.

2.4 Environmental Process

2.4.1 Notice of Preparation

A Notice of Preparation of the EIR was circulated to the public and public agencies from February 1, 2021 to March 2, 2021 (State Clearinghouse #2021020002). No requests for an extension to the NOP comment period were received.

2.4.2 Draft EIR

The Draft EIR will be circulated for agency and public review during a 45-day public review period prior to certification of the document by the CEC. This includes submitting the Draft EIR to the State Clearinghouse, posting the document to the project's CEC docket, and notifying interested persons on the proceeding's list serve of the Draft EIR. The list serve is an automated CEC system by which information about this proceeding is emailed to persons who have subscribed.

2.4.3 Final EIR

Substantive comments received on the Draft EIR will be formally addressed in the Final EIR. The Final EIR will be submitted to the State Clearinghouse, agencies, and posted to the project's docket and list serve.

The decision-making body must certify that it has reviewed and considered the information in the Final EIR and that the EIR has been completed in conformity with the requirements of CEQA. The CEC must consider the information in the EIR and respond to each significant effect identified in the EIR. If the CEC Commissioners find that the proposed project would create a substantial adverse impact on the environment or energy resources, the SPPE would be denied.

If the project is determined as qualifying for an exemption, the applicant would seek permits from the responsible agencies, in this case, the City of San Jose and Bay Area Air Quality Management District. Any required mitigation measures would be enforced by the appropriate responsible agency.

2.5 CEQA Analysis Format

The environmental analysis of this SPPE application takes the form of an EIR, which is prepared to conform to the requirements of CEQA, the CEQA Guidelines (California Code of Regulations, section 15000 et. seq.), and CEC's regulations and policies. The EIR is based on information from the applicant's SPPE application and associated submittals, site visits, data requests and responses, and additional staff research, including consultation with other agencies, such as responsible and trustee agencies.

2.5.1 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.

2.5.1.1 Application for Small Power Plant Exemption

The Application for SPPE (Application for Exemption) is filed by the project applicant to initiate the exemption proceeding. As specified in Title 20, section 1936(d), noticing of the Application for Exemption is set forth in Title 20, sections 1713 and 1714. Section 1713(b) 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. As required by section 1713(c), the summary is 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 Daily News (in Vietnamese). The relevant mailing lists covering the requirements of section 1713(b) are found in **Appendix E**.

In accordance with section 1714, staff 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 San Jose's local government. The mailing list used to engage with stakeholder agencies can be found in **Appendix E**.

Staff conducted further outreach to and consultation with regional tribal governments as described in **Section 4.5 Cultural and Tribal Cultural Resources**.

In addition to the required noticing set forth in sections 1713 and 1714, CEC staff provided public notice of the Application for Small Power Plant Exemption on January 6, 2019, through a Notice of Receipt (NOR). This notice was mailed to property owners and occupants within 1,000 feet of project site and 500 feet of project linears (e.g., sewer, natural gas, water, transmission line connections). 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 San Jose region. The NOR pointed recipients to the 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 E**.

2.5.1.2 Notice of Preparation and Public Scoping Meeting

On February 1, 2021, staff issued a Notification of Preparation (NOP) of an EIR to responsible and trustee agencies, starting a 30-day comment period. On February 19, 2021, staff hosted a public scoping meeting to hear comments on the scope and context of the environmental areas for the EIR. The meeting was noticed on February 5, 2021, consistent with CEQA noticing requirements. Staff reviewed and considered the comments received during the NOP comment period and addressed them as appropriate in the applicable technical section.

2.5.1.3 Draft Environmental Impact Report

The process for public notification of the Draft EIR is set forth in section 15087 of the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3) and requires at 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 parcel or parcels on which the project is located. Owners of such property shall be identified as shown on the latest equalized assessment roll.

To comply with section 15087, staff exceeded the requirements by mailing notification of the Draft EIR to all owners and occupants not just contiguous to the project site but also to property owners within 1,000 feet of the project site and 500 feet of project linears. The Draft EIR was also filed with the State Clearinghouse.

2.6 Organization of this EIR

This EIR is organized into five sections, as described below:

- Section 1 Summary. This section provides a concise overview of the proposed project and the necessary approvals; the environmental impacts that would result from the proposed project; mitigation measures identified to reduce or eliminate these impacts; project alternatives; nature of comments received on the NOP; and areas of known controversy and issues to be resolved.
- Section 2 Introduction. This section describes the type, purpose, and function of the EIR; the environmental review process; and the organization of the EIR.
- Section 3 Project Description. This section summarizes the proposed project, including the location of the site and project boundaries, characteristics of the proposed project, and objectives sought by the proposed project.

- Section 4 Environmental Setting, Environmental Impacts and Mitigation. This section includes the environmental setting; regulatory background; approach to analysis; project-specific and cumulative impacts; and mitigation measures, when appropriate. Staff evaluates the potential environmental impacts that might reasonably be anticipated to result from construction and operation of the proposed project. Staff's analysis is broken down into the following environmental resource topics derived from CEQA Appendix G:

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

  In addition, CEC CEQA analysis documents include an analysis of how the project would potentially impact an Environmental Justice[1] population.

  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.

- Section 5 Alternatives. This section includes a discussion of a reasonable range of alternatives to the proposed project, or to the location of the project, which could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and an evaluation of the comparative merits of the alternatives. This section also includes an evaluation of the no project alternative.

Section 3

Project Description

3 Project Description

Microsoft Corporation (Microsoft 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 San Jose Data Center (SJDC or project).

As noted in the Introduction section of this EIR, the discretionary decision being considered by the CEC is not approval of the data center project, but whether such approval can be considered by the city of San Jose or must it stay with the CEC. While this environmental analysis assesses the SJDC to support the CEC's jurisdictional decision and uses the term "project" to reference the data center, it is important to remember that the CEC's discretionary decision is limited to determining the appropriate permitting authority and not approval of the project. However, the City of San Jose as the permitting authority for the project, and therefore a responsible agency, would rely on the CEC's EIR for purposes of CEQA clearance during the entitlement processing.

3.1 Project Title

San Jose Data Center

3.2 Lead Agency Name and Address

California Energy Commission
715 P Street
Sacramento, California 95814

3.3 Lead Agency Contact Person and Phone Number

Lisa Worrall, Senior Environmental Planner
Siting, Transmission and Environmental Protection Division
California Energy Commission
(916) 661-8367

3.4 Project Location

The project site is located at 1657 Alviso-Milpitas Road in San Jose, California. The project site is bound by vacant land to the north, Ranch Drive to the east, Milpitas Alviso Road to the south, and Zanker Road to the west. **Figure 3-1** shows the regional location and **Figure 3-2** identifies the project location.

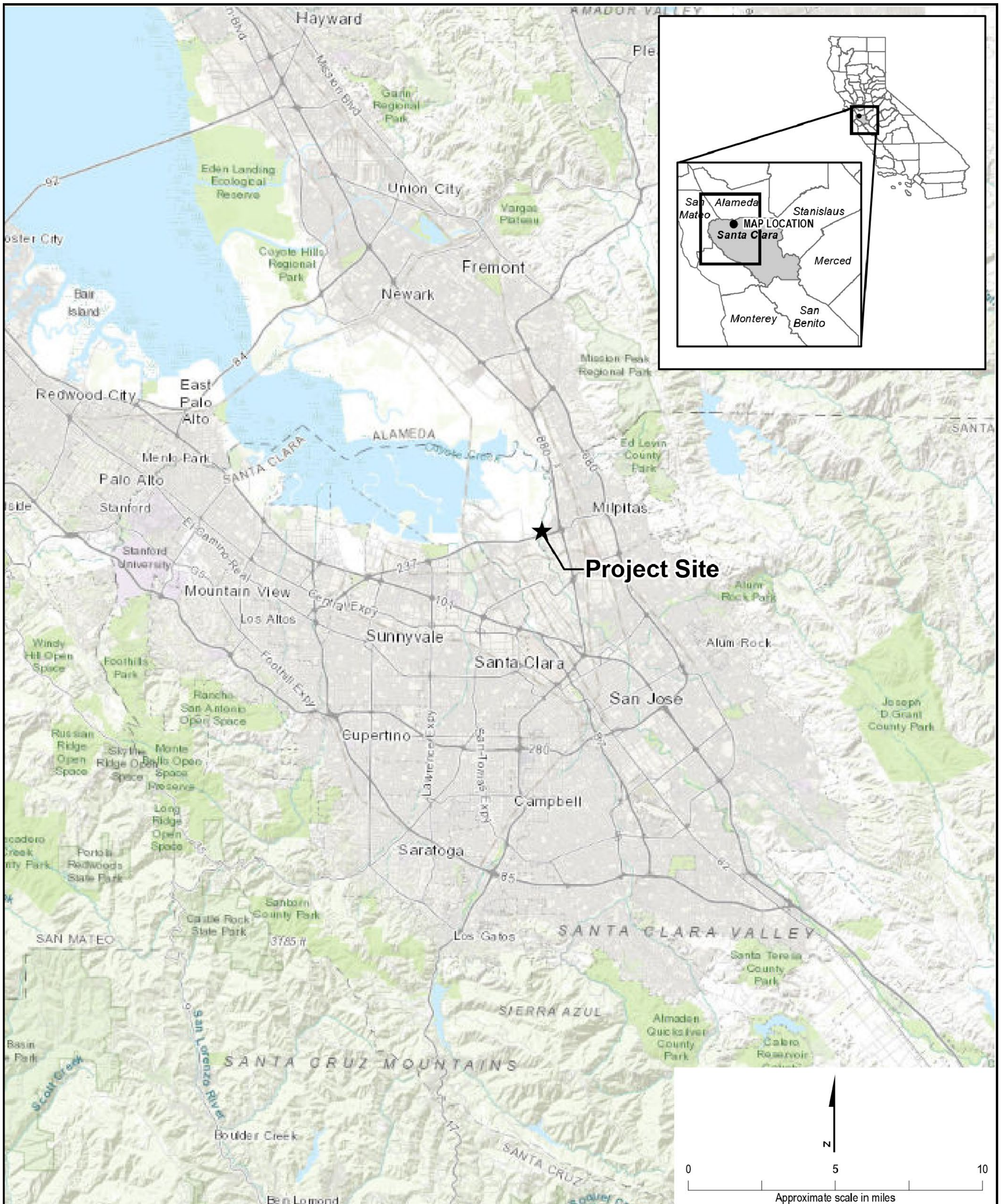
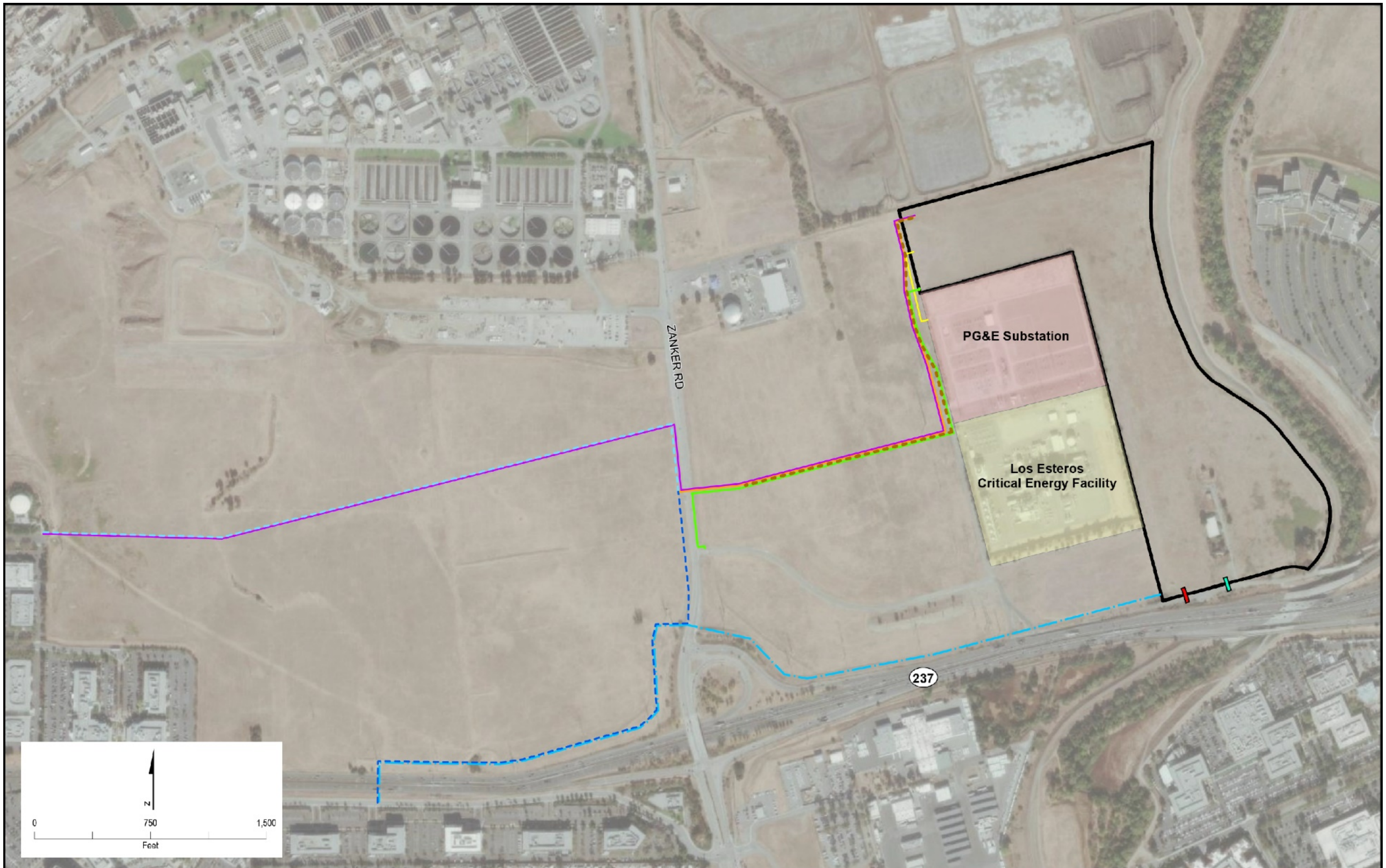


Figure 3-1
Regional Location

LEGEND

★ San Jose Data Center

Source: Jacobs 2019a



LEGEND

- Project Site
- Los Esteros Critical Energy Facility
- PG&E Substation
- Proposed Storm Drain
- Proposed Gas Line #1
- Proposed Gas Line #2
- Proposed Sanitary Sewer
- Proposed Reclaimed Water
- Proposed Water Line Route #1
- Proposed Water Line Route #2
- Proposed Water Line Route #3
- Proposed Shared Water Line
- Proposed Electrical Supply Line

Figure 3-2
Project Location

Source: Jacobs 2021o

3.5 Project Objectives

The applicant has identified the following project objectives:

- Meet the continuing need for a data center to support the San Jose region's growing business and work force population as well as its growth as a center of innovation consistent with San Jose's planned land use vision.
- Construct and operate a data center that maximizes the use of the project site to house computer servers, supporting equipment, and associated administrative office uses in an environmentally controlled structure with redundant subsystems (cooling, power, network links, storage, fire suppression, etc.).
- Locate the data center on property long-planned for industrial uses that is in proximity to existing circulation and utility infrastructure, a reliable large power source, and emergency response access, and on a site capable of being protected, to the maximum extent feasible, from security threats, natural disasters, and similar events.
- Design the proposed data center such that it can be provided with operational electric power via an electric 115/230-kilovolt (kV) substation, and efficiently extend, connect to, or otherwise install other utility infrastructure to adequately serve the project, including water, storm drainage, sanitary sewer, electric, natural gas, and telecommunications, as well as new roadway improvements.
- Ensure the data center achieves reduced access latency (defined as the time it takes to access data across a network).
- Incorporate reliable, commercially available, and feasible backup generators to ensure uninterrupted power during utility outages, interruptions, or failures, with back-up generation deployed in redundant configurations to achieve a 99.999 percent reliability factor.
- Incorporate use of renewable fuels as primary fuel for backup generators.
- Incorporate, as feasible, environmentally sustainable features into the project, such as bird-friendly building design components and the creation of an environmental buffer zone along Coyote Creek.

3.6 Project Overview and General Description of the Project's Technical and Environmental Characteristics

The project would consist of two single-story data center buildings. To provide reliable operation of the data center in the event of loss of electrical service from the local electric utility provider, Pacific Gas and Electric Company (PG&E), the project includes 224 renewable natural gas[1] (natural gas) generators, each with a standby output capacity of 0.45 MW to provide electrical power to support the data center uses during utility outages, certain onsite electrical equipment interruptions or failure, and for load shedding, demand response and behind-the-meter resource adequacy (RA) ancillary services. The maximum electrical load of the project would be 99 MW, although the estimated load is 77 MW, inclusive of information technology (IT) equipment, ancillary electrical/ telecommunications equipment, and other electrical loads (administrative, heat rejection, and safety/ security). These generators would be deployed in redundant configurations (that is, all 224 generators would never be operating at the same time at 100 percent of their maximum load) to provide uninterrupted power, up to the maximum of 99 MW (with an expected load of 77 MW). Each building's administrative functions would be supported during an interruption in the normal delivery of electrical power from the utility by two Tier 4 diesel administrative generators, with a 1.25 MW standby generator for the northern building and a 0.5 MW standby generator for the southern building. The administrative generators would provide continuous power to the essential systems (fire monitoring and other emergency operations) for both buildings during electrical outages. Each backup generator is a fully independent package system, with the two administrative generators having dedicated fuel tanks located on a skid below the generator. Each backup generator would be electrically interconnected to the building it serves through a combination of underground and aboveground conduit and cabling to a location within the building that houses electrical distribution equipment.

Electrical power from the project generators cannot and would not create electricity for offsite distribution and consumption, as the electrical interconnection to the PG&E system only supports supplying electricity to project and does not allow exporting electricity from the project back to PG&E (i.e., the distribution line would only allow power to flow in one direction – from PG&E to the project). At no time would the generators generate more than 99 MW[1] of electricity. Microsoft would stipulate in an agreement with the utility to a contractual limit in the amount of electricity available from PG&E's system to a maximum of 99 MW.

The project also includes an onsite 115 kilovolt kV substation with two 115 kV underground electrical supply lines (approximately 0.2 mile) that would connect to PG&E's Los Esteros Substation, located adjacent to the site.

The project's two buildings include approximately 396,914 gross square feet (sq. ft.) of administrative and data center space. The northern building (designated SJC02) is a single-story structure of approximately 244,676 gross sq. ft. consisting of five colocation units (colos) with supporting amenities. The southern building (designated SJC03) is a single-story structure of approximately 152,238 sq. ft. consisting of three colos with supporting amenities. Both buildings include 13,826 sq. ft. of administrative space, including restrooms and shower facilities, storage areas, and loading docks. The site includes storm water bio-swales, paved surface parking lots, and landscaping features.

Additional project features include electrical switchgear and subsurface distribution lines between the substation and buildings, as well as from the backup generators and from each respective building. The backup generation system would be located along the sides of each building. The SJ02 would include 141 standby generators (140 natural gas

1 Total power use assumes 224, 0.45-MW natural gas generators operating at 75 percent load, plus the admin generators ((224 * 0.448 MW * 0.75) + 1.25 MW + 0.5 MW = 77.0 MW).

generators rated at 0.45 MW and one administrative standby diesel generator rated at 1.25 MW). SJC03 would include 85 standby generators (84 natural gas generators rated at 0.45 MW and one administrative standby diesel generator rated at 0.5 MW). The natural gas generators would be installed in groups of seven, with four groups of seven required for each colo. The administrative generator for each building would provide continuous power to the essential systems (fire monitoring and other emergency operations) for both buildings during electrical outages.

The approximately 64.5-acre project site is designated Light Industrial under the adopted Envision San Jose 2040 General Plan; is identified as Light Industrial in the applicable Alviso Master Plan; and is zoned LI- Light Industrial with an Assessor's Parcel Number of 015-31-054. A site plan is provided as **Figure 3-3**.

Natural gas is also proposed for comfort heating of the data center buildings. The project would include several offsite connections to potable and recycled water pipelines, to sanitary sewer and storm water pipelines, to electrical lines, and to natural gas pipelines, as well as an access road from the northern project boundary to Zanker Road, referred to herein collectively as the "offsite infrastructure alignment areas," as shown on **Figure 3-2**. A Class I improved bike trail and improvements to Zanker Road and Nortech Parkway are required as part of development in the Alviso Specific Plan and are included in the project. Refer to **Figure 3-4** for the route of bike trail and road improvements.

To make way for the project, the contaminated soils from the site would be removed. Refer to **Section 4-9 Hazards and Hazardous Materials Management** for more details.

Potable Water

For redundancy purposes, three potable water lines are proposed. Water Line Route #1 and Water Line Route #2 begin in the northwestern corner of the project. Both routes travel south to the proposed entrance road, Nortech Extension. From there, they both turn west to Zanker Road. At Zanker Road, Water Line Route #1 heads north briefly and then west, ultimately connecting to the Nortech valve. Water Line Route #1 is approximately 1.5 miles (7,900 feet) long. At Zanker Road, Water Line Route #2 turns south before turning west alongside Highway 237, and eventually turning south to go under Highway 237 to connect to the new Holger Valve. Water Line Route #2 is approximately 1.3 miles (7,100 feet) long. Water Line Route #3 begins at the southwestern corner of the project, and heads generally east to Zanker Road, where it would parallel Water Line Route #2 connecting to the new Holger valve. Water Line Route #3 is approximately 1.4 miles (7,500 feet long). The water would come from the San Jose Municipal Water System to the project.

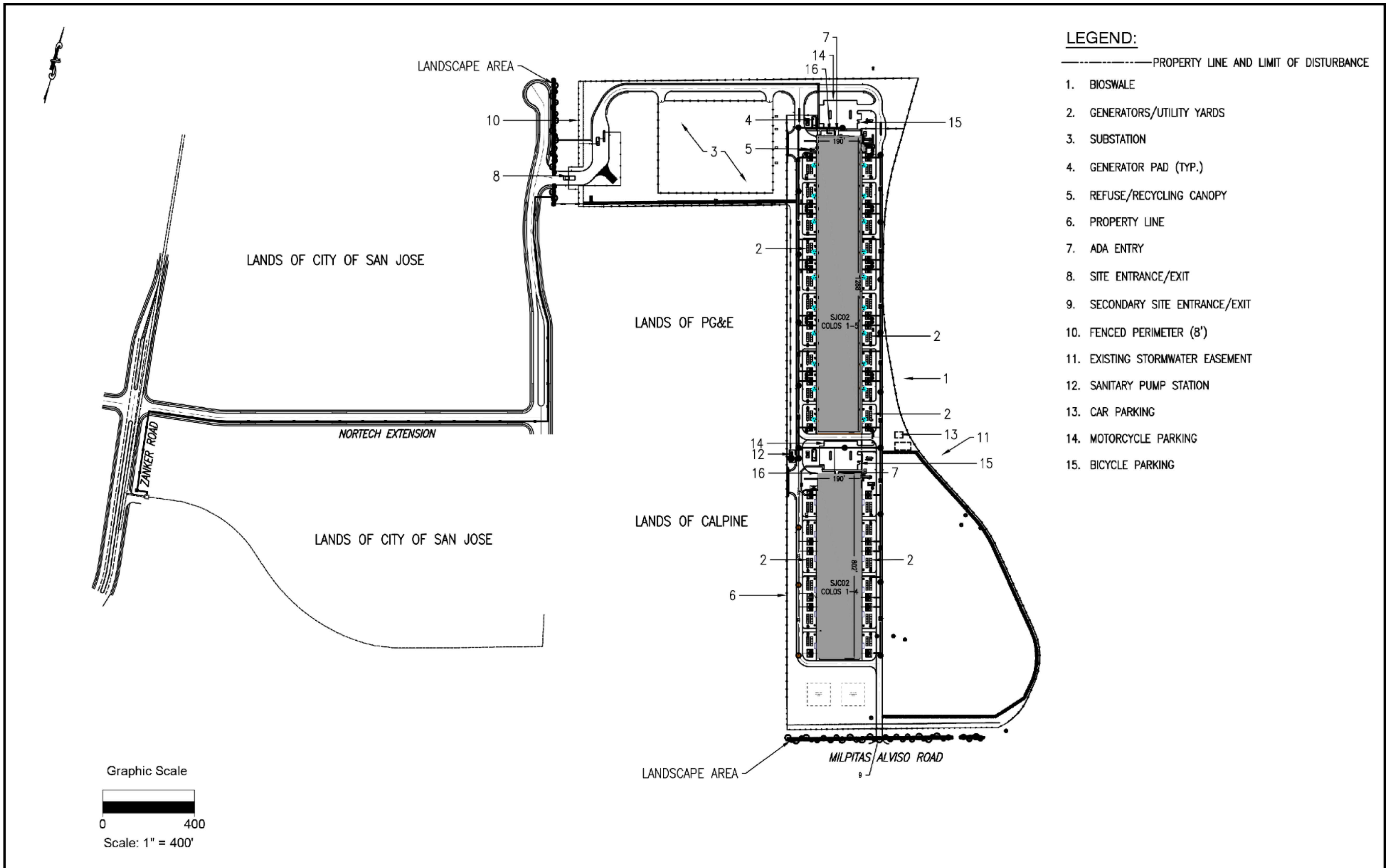


Figure 3-3
Site Plan

Source: Jacobs 2021o

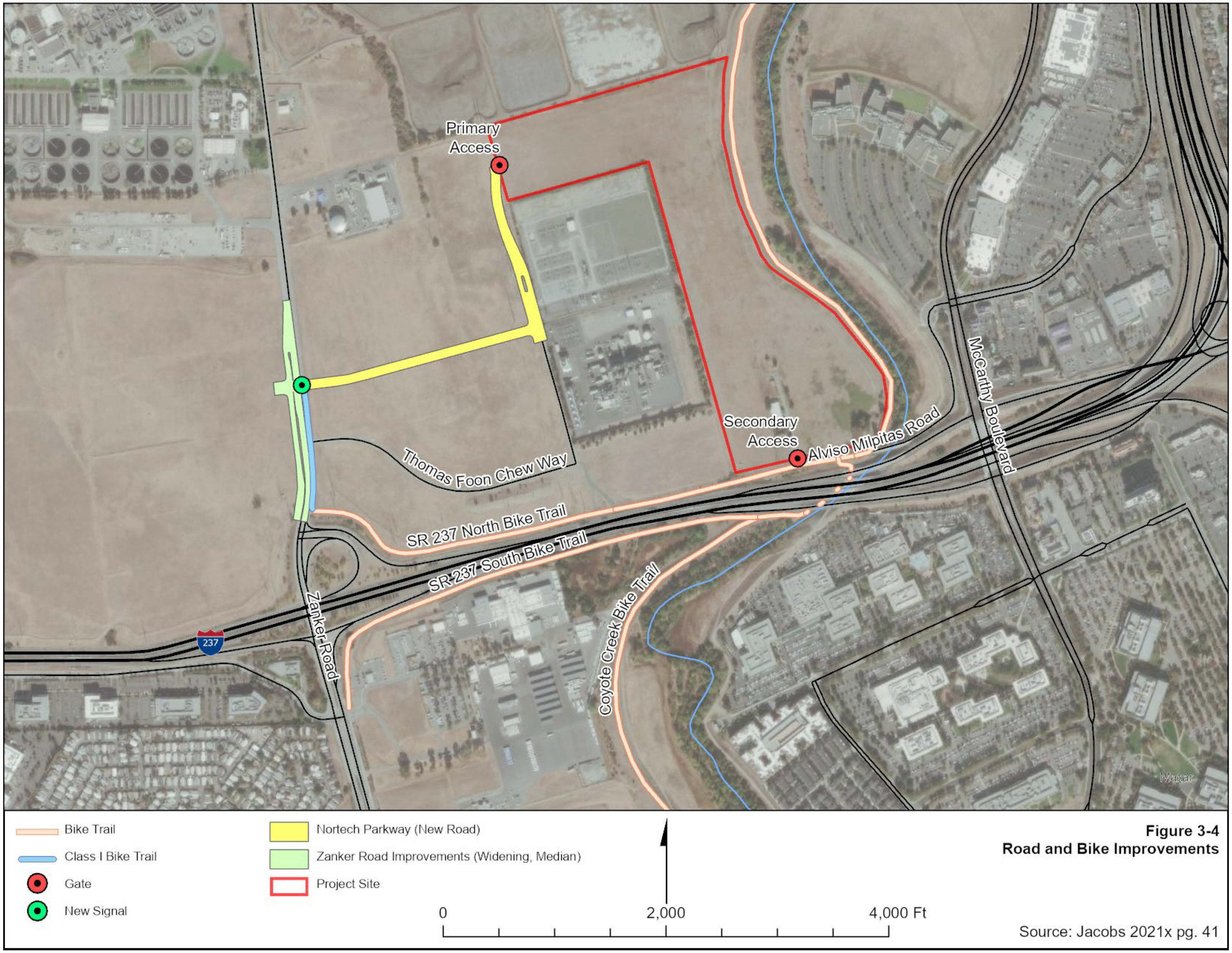


Figure 3-4
Road and Bike Improvements

Source: Jacobs 2021x pg. 41

Reclaimed Water

Reclaimed water would be used at the site for landscaping and process cooling purposes. The reclaimed water line would start at the northwestern corner of the project site and proceed south to the proposed entrance road, Nortech Parkway extension.

From there, the line turns west and ends at an existing reclaimed water line that is oriented generally north to south. The reclaimed water line would be approximately 0.5 mile (2,900 feet) long.

Sanitary Sewer

A sanitary sewer line would begin at the northwestern corner of the project site, and head south to the proposed entrance road, where the line turns to the west. At Zanker Road, the line turns south and would connect to the existing sanitary sewer force main/pump station at the corner of Zanker Road and Thomas Foon Chew Way. The sewer line is approximately 0.6 mile (3,300 feet) long.

Storm Water

The storm water line for the project would begin in the northwestern corner of the project site, paralleling the water line route, terminating at the Nortech Parkway extension off Zanker Road, where it would tie into the City of San Jose’s storm water system in the vicinity of Nortech Parkway. The storm water line is approximately 0.55 miles (3,000 feet) long.

Electrical Supply Line

The proposed onsite substation would be located in the northwestern corner of the project site and would interconnect to the existing adjacent PG&E substation via two, approximately 0.2-mile-long 115 kV distribution lines. The approximately 1,100-foot-long electrical supply lines would be located within the access road on the western fence line of the PG&E Los Esteros Substation.

Natural Gas Supply Lines

Natural gas would be provided by PG&E via two independent natural gas pipelines at the southern border of the project, which would provide redundancy in the natural gas supply. Each line would run directly south from the project boundary to PG&E’s existing gas lines located within Alviso-Milpitas Road. One natural gas supply line would interconnect with Line 109 and the other with Line 101. Each new interconnection pipeline would be approximately 75 feet in length.

Data Center Design

Buildings SJC02 and SJC03 would be constructed of steel structural components with metal framed and insulated exterior walls with metal panel façade containing accent fields. The entries would include storefront glazing. Heating, ventilation, and air conditioning equipment, including adiabatic chiller units, would be located adjacent to each building. The exterior of the buildings would conform to applicable City of San Jose design standards.

Other Required Project Work

Bike Trail Extension. The proposed project includes the extension of a Class I improved bike trail along the east side of Zanker Road from the intersection of the existing bike trail at Zanker Road to the new Nortech Parkway extension to provide a trail connection to the Coyote Creek Trail (see **Figure 3-4**).

Zanker Road/ Nortech Parkway Improvements. As part of required off-site infrastructure improvements, Zanker Road would be widened, an extension of Nortech Parkway would be constructed to the site from Zanker Road, and a new signalized intersection would be constructed (See **Figure 3-4**).

3.6.1 Electrical Power Delivery

Electrical Supply

Electricity for the data center would be supplied via a new SJDC 115 kV Substation to be constructed on the project site, connecting through the existing PG&E Los Esteros Substation 115 kV bus.

The proposed SJDC Substation is designed as a three-bay substation in a breaker-and-a-half arrangement with three 60 MVA (115/34.5 kV) transformers. Only two transformers are required to supply the full data center load and the third transformer would allow for transformer maintenance without interruption. The Los Esteros Substation would be modified to include two new 115 kV circuit breakers, disconnect switches, and other required devices. The 1,100 foot-long 115 kV underground cables would connect from the Los Esteros Substation to the new SJDC Substation. Power would be provided through six 34.5 kV lines to the SJDC.

Electrical System Engineering

The natural gas standby generator system includes a redundant 4-to-make-3 design topology, meaning that only 75 percent of a standby generator's capacity is required to support the electrical load in the event of a utility failure. In the event of a utility service disruption, all 224 standby generators (total for both buildings) begin operation at approximately 75 percent load, with both administrative generators operating at approximately 100 percent load. The total estimated electrical demand under this scenario is approximately 77 MW. Each building's standby generators would be supported by an uninterruptible power supply (UPS) system consisting of batteries, an inverter, and switches to facilitate the uninterrupted transfer of electrical power supply from the PG&E substation to the onsite standby generators in the event of an undefined number of potential circumstances that could impact PG&E's service (resulting in a loss of power or degradation in power quality), which triggers the starting of the standby generators. The

UPS system includes valve-regulated battery banks, with each bank capable of providing up to 10 minutes of backup at 10 percent load. The UPS system has a rectifier and inverter to condition electricity and is sized to deliver power to support 100 percent of the server bay demand for up to 60 seconds. However, when the electrical service is outside of pre-determined tolerances (+10 or -15 percent of alternating current nominal voltages or a frequency range of 60 Hertz plus or minus 5 percent), the UPS would transfer over to bypass to deliver generator produced power. The UPS transfer load from PG&E to UPS battery power, which triggers the start of the generators, occurs within 5 milliseconds. Load then transfers from the UPS battery system to the standby generators within 20 seconds of generator start. The UPS system provides 'clean' utility power for critical loads (IT equipment, fire/security and building management systems, and some small 120-volt circuits). The major mechanical systems, lighting, and general receptacles are not powered from the UPS sources.

The two separate 115 kV PG&E distribution lines are connected to PG&E's Los Esteros Substation at two new, separate circuit breakers (Bays 7 and 8). The project distribution lines would include 1,250 kcmil copper XLPE extruded dielectric cables capable of transmitting 150 Mega Volt Amps. A single electrical system consists of a 34.5 kV to 480-volt substation transformer feeding the 480-volt critical bus that feeds two parallel UPS modules. The critical bus is supported by its own standby generator, and each standby generator operates independent of one another. A utility main breaker and a generator main breaker are included in the critical bus 480-volt switchgear, which are controlled by an automatic transfer controller that transfers the electricity generated by the dedicated standby generator in the event of a power outage. The PG&E distribution lines supplying electricity to the onsite substation would be located within the project site.

Electrical Generation Equipment

The 224 natural gas fired generators are packaged by Enchanted Rock 21.9L natural gas engines rated at 0.45. Each engine includes two sets of 3-way catalysts that control air emissions, with one set of catalysts installed on each bank of cylinders. The catalysts sets are designated in series with a primary and secondary catalyst. Each bank of cylinders also includes its own exhaust stack, with two exhaust stacks per engine. Seven engines are installed in an enclosure compromising one unit.

The administrative generators would be a United States Environmental Protection Agency (U.S. EPA) Tier-4 diesel-fired generator equipped with diesel particulate filters (DPFs) and selective catalytic reduction systems (SCRs). The administrative generators would be Caterpillar Model 3512C and QSX15, with a standby generating capacity of 1.25 and 0.5 MW, respectively.

The 1.25-MW administrative generator would be approximately 13 feet wide, 41 feet long, and 16 feet tall to the top of the enclosure. The 0.5 MW administrative generator would be approximately 13 feet wide, 41 feet long, and 13 feet tall to the top of the enclosure. Each standby generator would include a separate exhaust stack approximately 30 feet above grade.

Fuel System. The natural gas fired generators would be supplied with fuel from the onsite metering yard, located south of the building SJ03. The metering yard is interconnected to PG&E's Lines 101 and 109 via a pipeline that extends approximately 75 feet off the southern property line. Lines 101 and 109 are supplied from different parts of the PG&E natural gas system providing a high level of redundancy and resiliency. The site is located very near the Milpitas gas terminal

Each administrative generator includes a diesel fuel tank with polishing filtration system. The tank would be located underneath each administrative generator and provides sufficient fuel storage to operate the generator for approximately 48 hours. The 1.25- and 0.5-MW generators include 4,800- and 2,000-gallon tanks, respectively.

The applicant would contract with multiple fuel suppliers to provide delivery within 48 hours of a request to confirm fuel availability.

Cooling System. The generators would be self-contained, with their own radiators for cooling.

3.6.2 Water Use

Potable water would be provided by the San Jose Municipal Water System. Recycled water is available and would be used onsite for process cooling and landscaping purposes. The administrative generators would require water during the initial filling of the closed-loop radiator system and periodically during maintenance events. After the initial fill, no further consumption of water by the administrative generators would be required.

Building cooling would be accomplished using adiabatic cooling technology. The adiabatic cooling technology uses a radiator-style cooling system with wetted pre-cooling pads installed upstream of the cooling tube bundle. During lower ambient conditions, the tower operates without using water on the wetted pads. However, during higher ambient temperatures (greater than 75 degrees Fahrenheit), the pre-cooling pads are wetted to reduce the incoming air temperature, resulting in greater heat rejection. The expected total water demand is approximately 423 acre-feet per year, which is primarily recycled water, with less than 1 acre-feet per year of potable water for sanitary purposes and other minor maintenance uses (Jacobs 2021y).

3.6.3 Waste Management

A minor amount of demolition[2] and construction-related wastes, such as packing materials, wood for temporary construction supports, and damaged construction materials (e.g., broken tiles or small hardware items) would be generated during construction. All these wastes would be managed and disposed of consistent with

2 Limited demolition is anticipated at the site as the 2 vacant residences and a storage shed/warehouse onsite at the time the SPPE application was filed, were demolished in 2021 after a fire significantly affected the safety of one of the dwellings (Jacobs 2021o, pg. 3.3-12).

applicable law, as described in **Section 4.9 Hazards and Hazardous Materials**. No significant quantities of solid waste would be generated during operation of the project. The SJDC would generate sanitary sewage, which would be sent via underground pipeline from the building to a new interconnection with an existing sanitary sewer force main/pump station at the corner of Zanker Road and Thomas Foon Chew Way.

3.6.4 Hazardous Materials Management

The administrative generators would include a double-walled fuel tank to minimize the potential of an accidental fuel release. As diesel fuel is not highly volatile, vapor controls are not required. The space between the walls of the fuel tank would be monitored for the presence of liquids. This monitoring system would be monitored by the onsite operations staff, who would receive automated alerts in the event of fuel leak or release. The diesel fuel and potentially the battery electrolyte (sulfuric acid) represent the only hazardous materials stored onsite in reportable quantities.

Fuel deliveries would occur as needed by fuel suppliers delivering diesel fuel via tanker trucks. These tanker trucks would park near each standby generator for refueling. Fueling would occur within a spill catch basin located under each generator fill connection. The drain to the spill catch basin would be closed prior to the start of fueling. Spill control equipment would be stored within the backup generation yard to allow immediate responses in the event of an accident.

As a safety measure, to the extent feasible, fueling operations would be scheduled at times when storm events are improbable to avoid potential impacts to water resources.

Warning signs would be installed at the fuel unloading areas to minimize the potential of refueling accidents occurring due to tanker trucks departing prior to disconnecting the transfer hose. Also, an emergency pump shut-off would be utilized if a pump hose breaks while fueling the tanks. Tanker truck loading and unloading procedures would be posted at the fuel unloading areas.

3.6.5 Project Construction

The term "construction" is hereafter generally used to include both installation of the generators, construction of the data center, and construction of the off-site linears, section of a Class I bike trail, and improvements to Zanker Road and Nortech Parkway required of the applicant according the Alviso Milpitas Specific Plan. **Figure 3-5** presents the construction laydown and access plans. Construction is anticipated to begin in the 4th quarter of 2022, with completion in the 1st quarter of 2024. Before construction begins, any agriculture-related contamination on the project site is remediated consistent with requirements of the Santa Clara County Environmental Health Department. Possible remediation may include excavation for offsite disposal or capping in place.

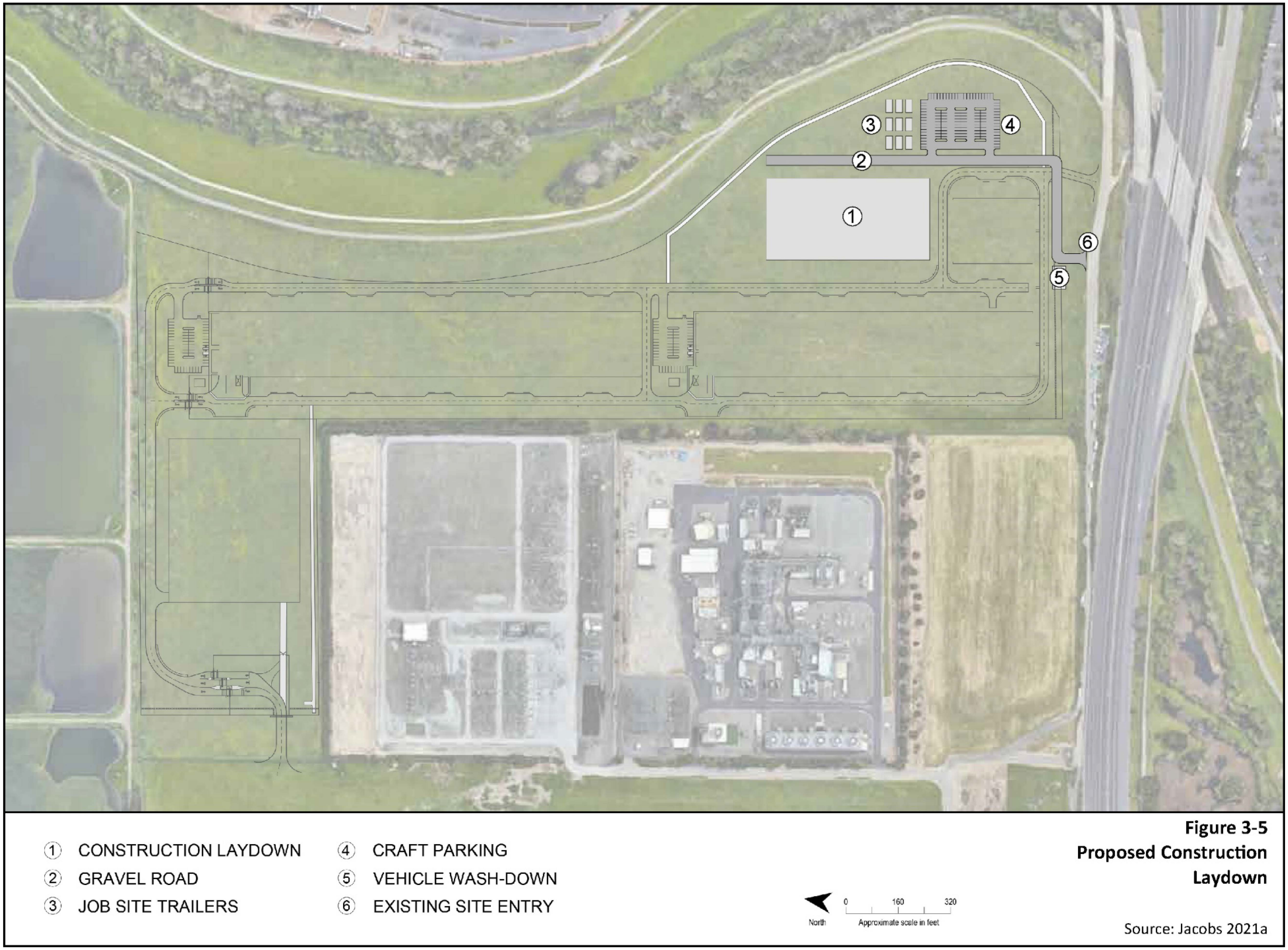


Figure 3-5
Proposed Construction Laydown

Source: Jacobs 2021a

No offsite staging or laydown areas are proposed, as construction staging would occur on the project site or within the 75-foot construction corridor for linear features (each side of the linear).

Site Access. The new roadways associated with site access would be on an advanced timeframe from the on-site project work, with the route improved sufficiently in advance of site construction commencing to allow for use by construction traffic.

Site Construction. The applicant would commence construction of the project after any agriculture-related soil contamination is remediated consistent with requirements to be provided by the local permitting agency. Possible remediation may include excavation for offsite disposal or capping in place. No offsite staging or laydown areas are proposed, as construction staging would occur on the project site or within the 75-foot construction corridor for linear features (each side of the linear).

Construction of the project is expected to take approximately 17 months. Construction of the offsite linear features within the offsite infrastructure alignment areas is expected to be completed within the 17-month construction window. Onsite construction is expected to require a maximum of 215 workers (craft and supervisory) per month and an average of 108 workers per month. Maximum and average offsite construction workers are expected to be 72 and 48, respectively.

Other Required Work. The work for the bike trail extension and improvements at Zanker Road and Nortech Parkway would require staging of construction as well as Maintenance and Protection of Traffic (MPT) measures be put in place to facilitate this phase of work. The MPT strategy would be to construct the new widened portion of roadway initially, transfer traffic to that pavement, then reconstruct the existing pavement to complete the new cross-section, with a final stage to complete the roadway. This work in total can be expected to be performed over an approximately 8-month duration, for a period of two to three months to complete each stage.

3.7 Facility Operation

The project is proposing to operate differently from other previous data center projects using solely diesel backup generators. The standby generators would be run primarily for testing and maintenance purposes, and otherwise would not operate unless there is an interruption of the electrical supply or pursuant to dispatch for load shedding, demand response, and behind the meter resource adequacy (RA). Electrical load is a demand or need for electricity service. Load shedding is load reduction usually instigated or controlled by the utility. Demand response is a load reduction usually from the customer, usually to avoid a high electric price or in response to an additional incentive. Resource adequacy is a way of accounting for how either an electricity generator or a customer's load reduction can support the continued reliability of the electric grid provided they meet certain requirements. If customers can meet the specific resource adequacy requirements, they would essentially sell or get paid for disconnecting from the grid. **Tables 3-1** and **3-2** present the expected testing and maintenance operations for each diesel and natural gas generator, respectively. The natural gas generators would operate bi-weekly for approximately 20 minutes. In the event the facility is dispatched to operate the engines to provide load shedding, demand response, or behind-the-meter resources adequacy (RA), the generators would not require maintenance and testing operation until the next scheduled bi-weekly testing event. The applicant intends to participate in PG&E's Base Interruptible Program (BIP). This program was designed to reduce electrical loads on PG&E's system when the California Independent System Operator issues a curtailment notice (Jacobs 2021y, pg. 10). Participation in PG&E's BIP program would require the project to reduce their load by disconnecting the project from the electrical grid and self-generating the required electrical load with the natural gas generators, making that quantity of electric power available to PG&E's grid.

Air emissions analysis includes 500 hours of operation for resource load shedding and behind-the-meter RA purposes and reflects 15 minutes of uncontrolled emissions (Jacobs 2021o, 3.3 Air Quality, pg. 3.3-15).

TABLE 3-1 STANDBY DIESEL GENERATOR EXPECTED TESTING AND MAINTENANCE EVENTS (PER STANDBY GENERATOR)

Maintenance Events	Duration		Load Factor	Annual Operations
	Frequency	Hours		Hours/Year
Monthly Generation	8	0.42	100%	3.4
Quarterly Generation	3	0.42	100%	1.3
Annual Generation	1	2	100%	2
3 Year Medium Voltage Breaker/ Transformer Testing	1	4	100%	4
Contingency Testing	-	1.6	100%	1.6

Source: Jacobs 2021o, Table 2-4a

TABLE 3-2 NATURAL GAS GENERATOR EXPECTED TESTING AND MAINTENANCE EVENTS (PER STANDBY GENERATOR)

Maintenance Events	Duration		Load Factor	Annual Operations
	Frequency	Hours		Hours/Year
Bi-Weekly Testing	26	0.333	75% - 90%	8.66

Source: Jacobs 2021o, Table 2-4b

3.8 Intended use of the EIR

As the lead agency pursuant to the CEQA, the CEC is responsible for the preparation of this EIR. The CEC will use this EIR in support of its discretionary decision to grant or deny the small power plant exemption application. As noted, the CEC is not rendering any decision to approve or deny the construction of the project. If the exemption is granted, the EIR is expected to be used by the city of San Jose in its consideration of permitting the project as well as by the Bay Area Air Quality Management District (BAAQMD) for its issuance of various air quality permits. Upon exempting the project, the CEC would have no permitting authority over the project and would not be responsible for any mitigation or permit conditions imposed by the city of San Jose or the BAAQMD.

In developing this EIR CEC staff consulted with tribes requesting such engagement, with the city of San Jose, the Santa Clara Valley Habitat Agency, the California Fish and Wildlife, the BAAQMD, and the United States Fish and Wildlife Service.

3.9 References

Jacobs 2019a – Jacobs (Jacobs). (TN 230741). SJCO2 Data Center SPPE Application Volume 1. Dated November 15, 2019. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

Jacobs 2019b – Jacobs (Jacobs). (TN 230755). SJC02 Data Center SPPE Application Volume 2 Appendix 1A (Partial), dated November 15, 2019. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

Jacobs 2020a – Jacobs (Jacobs). (TN 231774). San Jose Data Center Response to Data Request Set 1. Dated January 28, 2020. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

Jacobs 2021o – Jacobs (Jacobs). (TN 239409). SJC Data Center SPPE Application Supplemental Filing Volume 1, dated August 20, 2021. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

Jacobs 2021p – Jacobs (Jacobs). (TN 239410). SJC Data Center SPPE Application Supplemental Filing Volume 2, dated August 20, 2021. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

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San Jose 2017 – City of San Jose (San Jose). 237 Industrial Center. City of San Jose Department of Planning, Building and Code Enforcement. Available online at: https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/completed-eirs/237-industrial-center

Section 4

Environmental Setting and Environmental Impacts

4 Environmental Setting, Environmental Impacts and Mitigation

Under the California Environmental Quality Act (CEQA), the environmental setting of a project is generally the physical environmental conditions in the vicinity of the project as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced (CEQA Guidelines, § 15125(a)(1)). The environmental setting described in an EIR by the lead agency will normally constitute the baseline physical conditions by which the lead agency determines whether an impact is significant (CEQA Guidelines, § 15125(a)).

4.1 Aesthetics

This section describes the environmental setting and regulatory background and discusses impacts associated with the construction and operation of the project specific to aesthetics in the existing landscape.[1]

AESTHETICS Except as provided in Public Resources Code Section 21099[2], 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.

4.1.1 Environmental Setting

The proposed project is to be constructed on relatively flat land in a developed industrial area in the northern tip of the City of San Jose, California. San Francisco Bay and baylands are to the north. The Los Esteros Energy Center, Los Esteros Substation, Silicon Valley Advance Water Purification Center, and the San Jose-Santa Clara Regional Wastewater Facility are to the west. U.S. Interstate 880 (I-880) and Coyote Creek are to the east.

1 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; Amir and Gidalizon 1990)

2 Public Resources Code (PRC) section 21099 asks is the proposed project an "employment center project" on an "infill site" within a "transit priority area" as defined in this section. PRC § 21099(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."

State Route (SR) 237 is to the south. Intermittent undeveloped land covered with annual grasses or managed agricultural fields complete the area.

The project would include two single-story buildings and supporting facilities. Building SJC02 would be approximately 244,676 square feet and building SJC03 would be approximately 152,238 square feet. The project would include 224 natural gas generators, two Tier 4 compliant diesel administrative generators, and a 115-kilovolt (kV) substation with two 115-kV electrical supply lines that would connect to the Los Esteros Substation. Refer to **Section 3 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 (Sections 260 through 263) created by the Legislature in 1963, which established the State's responsibility in identified areas to preserve and enhance the natural beauty of California adjacent to the state highway system. Review of the California Scenic Highway Mapping System shows no designated state scenic highway near the project.

Local

City of San Jose General Plan. *Envision San Jose 2040 General Plan* (General Plan) shows the project site designated Light Industrial. "This designation is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. Warehousing, wholesaling, and light manufacturing are examples of typical uses in this designation. Light Industrial designated properties may also contain service establishments that serve only employees of businesses located in the immediate industrial area. Office and higher-end industrial uses, such as research and development, are discouraged in order to preserve the scarce, lower cost land resources that are available for companies with limited operating history (startup companies) or lower cost industrial operations." (San Jose 2020, Chapter 5, pg. 11) The maximum floor area ratio (FAR) is 1.5. Typical building height is 1 to 3 stories.

<u>Scenic Resources</u>

"The City of San Jose has many scenic resources which include the broad sweep of the Santa Clara Valley, the hills and mountains which frame the Valley floor, the baylands and the urban skyline itself, particularly high-rise development. It is important to preserve public thoroughfares which provide visual access to these scenic resources. The designation of a scenic route applies to routes which afford especially aesthetic views. Gateways are locations which announce to a visitor or resident that they are entering the city, or a unique neighborhood. San Jose has a number of Gateway locations including

Coleman Avenue at Interstate 880, 13th Street at US 101, and Highway 101 in the vicinity of the Highway 85 Interchange." (San Jose 2020, Chapter 4, pg. 25)

City Design Policies

- Policy CD-1.1: Require the highest standards of architecture and site design, and apply strong design controls for all development projects, both public and private, for the enhancement and development of community character and for the proper transition between areas with different types of land uses.
- Policy CD-1.7: Require developers to provide pedestrian amenities, such as trees, lighting, recycling and refuse containers, seating, awnings, art, or other amenities, in pedestrian areas along project frontages. When funding is available, install pedestrian amenities in public rights-of-ways.
- Policy CD-1.8: Create an attractive street presence with pedestrian-scaled building and landscape elements that provide an engaging, safe, and diverse walking environment. Encourage compact, urban design, including use of smaller building footprints, to promote pedestrian activity through the City.
- Policy CD-1.11: To create a more pleasing pedestrian-oriented environment, for new building frontages, include design elements with a human scale, varied and articulated facades using a variety of materials, and entries oriented to public sidewalks or pedestrian pathways. Provide windows or entries along sidewalks and pathways; avoid blank walls that do not enhance the pedestrian experience. Encourage inviting, transparent facades for ground-floor commercial spaces that attract customers by revealing active uses and merchandise displays.
- Policy CD-1.23: Further the Community Forest Goals and Policies in this Plan by requiring new development to plant and maintain trees at appropriate locations on private property and along public street frontages. Use trees to help soften the appearance of the built environment, help provide transitions between land uses, and shade pedestrian and bicycle areas.
- Policy CD-1.27: When approving new construction, require the undergrounding of distribution utility lines serving the development. Encourage programs for undergrounding existing overhead distribution lines. Overhead lines providing electrical power to light rail transit vehicles and high tension electrical transmission lines are exempt from this policy.
- Policy CD-1.18: Encourage the placement of loading docks and other utility uses within parking structures or at other locations that minimize their visibility and reduce their potential to detract from pedestrian activity.
- Policy CD-4.9: For development subject to design review, ensure the design of new or remodeled structures is consistent or complementary with the surrounding neighborhood fabric (including but not limited to prevalent building scale, building materials, and orientation of structures to the street).

- Policy CD-10.2: Require that new public and private development adjacent to Gateways, freeways (including U.S.101, I-880, I-680, I-280, SR17, SR85, SR237, and SR87), and Grand Boulevards consist of high-quality architecture, use high-quality materials, and contribute to a positive image of San Jose.
- Policy CD-10.3: Require that development visible from freeways (including U.S.101, I-880, I-680, I-280, SR17, SR85, SR237, and SR87) be designed to preserve and enhance attractive natural and man-made vistas.

Alviso Master Plan. The project site is within the Alviso Master Plan area. "Located at its far northern edge, adjacent to the southerly tip of San Francisco Bay, Alviso is a unique district of San Jose, retaining much of its original character and historical roots. Working closely with the Alviso community, the City prepared a Plan to retain Alviso's small town atmosphere while preserving historic resources, enhancing infrastructure and services, and providing modest development opportunities. The Alviso Master Plan provides for mixed-use development within the historical Alviso Village area, modest expansion of the established residential neighborhood, and significant amounts of new industrial and commercial development along the Plan area's southern and eastern edges. This Plan area notably includes several of the City's recycling/landfill facilities as well as the Water Pollution Control Plant." (San Jose 2020, Chapter 1, pg. 51)

City of San Jose Code of Ordinances. The San Jose Land Use Zoning shows the project site within the Light Industrial (LI) zoning district. "The light industrial zoning district is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. The design controls are less stringent than those for the industrial park zoning district. Examples of typical uses are warehousing, wholesaling, and light manufacturing. Sites designated light industrial may also contain service establishments that serve only employees of businesses located in the industrial areas. In addition, warehouse retail uses may be allowed where they are compatible with adjacent industrial uses and will not constrain future use of the subject site for industrial purposes." (San Jose 2021, § 20.50.010. C, 4) A data center is listed as a "special" use allowed in the zone district upon issuance of a Special Use Permit. (San Jose 2021, § 20.50.100E)

Staff reviewed the following zoning code requirements that have some relation to scenic quality. They are discussed under the subsection "Environmental Impacts and Mitigation Measures."

- The LI zoning district maximum building height is 50 feet. (San Jose 2021, § 20.50.200)
- The LI zoning district requires landscaping on the project site and its maintenance. All setback areas, exclusive of permitted off-street parking areas and private egress, or circulation, shall be landscaped. (San Jose 2021, § 20.50.260)
- The LI zoning district requires ground mounted light fixtures to not exceed twenty-five feet in height. Light fixture heights should not exceed eight feet when adjacent to residential uses unless the setback of the fixture from the property line is twice the

height of the fixture. Any lighting located adjacent to riparian areas shall be directed downward and away from riparian areas. (San Jose 2021, § 20.50.250)

San Jose City Council Policy No.: 4-3 – Outdoor Lighting On Private Developments. The "City Council, on March 1, 1983 approved Resolution No. 56286 adopting as the City policy the requirement that low-pressure sodium illumination be used in the outdoor areas of new private developments. The regulation of outdoor lighting fixtures has resulted in energy conservation which furthers the goals of the Sustainable City Major Strategy of the General Plan....

The purpose of this policy is to promote energy-efficient outdoor lighting on private development in the City of San Jose that provides adequate light for nighttime activities while benefiting the continued enjoyment of the night sky and continuing operation of the Lick Observatory by reducing light pollution and sky glow." (San Jose 2000)

Industrial Design Guidelines. The Industrial Design Guidelines adopted by the San Jose City Council on August 25, 1992 provide guidelines to address issues of area compatibility, project function, and aesthetics. The Guidelines provide minimum design standards applied to various land uses, development types, and locations, and facilitate an efficient review process by the City on industrial development. "Because creativity is always encouraged, deviation from guidelines may be appropriate, particularly when deviation results in a higher quality design and project." (San Jose 1992, pg. 1)

Site Development Permit. The purposes of a Site Development Permit are to promote orderly development, to enhance the character, stability, integrity and appearance of neighborhoods and zoning districts, to maintain and protect the stability and integrity of land values, and to secure the general purposes of the Zoning Code and the General Plan. The City reviews and regulates the aesthetic and functional aspects of structures and sites, to require, as the City determines necessary, the aesthetic and functional improvements to the site and to any structures thereon, and to require offsite improvements through the Site Development Permit. (San Jose 2021, § 20.100.600)

4.1.2 Environmental Impacts

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 purpose of CEQA.[3] A general plan, specific plan, zoning code, or other planning document may provide guidance.

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

Construction and Operation

Less Than Significant Impact. Construction and operation of the project would not have a substantial adverse effect on a scenic vista.

The City's General Plan and the Alviso Master Plan do not identify a distinct scenic vista or a specific related policy. The General Plan identifies Gateways. Review of aerial and street view imagery using Google Earth Pro (build date March 5, 2019), the estimated distances of the Gateways from the project site are 13th Street at US Highway 101 approximately four and a half miles to the south; Coleman Avenue at I-880 five and a half miles south. US Highway 101 near the SR-85 interchange eight miles to the west. Also, as shown on the General Plan Scenic Corridors Diagram dated June 6, 2016, the Gateway Trade Zone Boulevard at I-880 is two miles to the south-south east, and North 1st Street at State Highway 237 a little less than two miles to the west. A viewer at the Gateways would not have a public view of the project due to distance, and aboveground buildings, structures, earthwork, trees, and vegetation.

In addition, this analysis used 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 decisions for a number of thermal power plant projects used this definition.[4] Review of aerial and street view imagery, and site photographs, concluded the project would be on a relatively unenclosed plain—the Santa Clara Valley floor and not within a scenic vista as defined.

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.

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

5 A public view can be defined as 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). CEQA

Construction and Operation

Less Than Significant Impact. Construction and operation of the project would not substantially damage a scenic resource. Review of Google Earth Pro aerial and street view imagery, and the General Plan found no scenic resource on the site or in the vicinity.

The General Plan states "The City of San Jose has many scenic resources which include the broad sweep of the Santa Clara Valley, the hills and mountains which frame the Valley floor, the baylands and the urban skyline itself, particularly high-rise development." (San Jose 2020, Chapter 4, pg. 25)

A five-mile distance zone surrounding the project is generally used when evaluating a scenic resource. In a visual impact assessment, the U.S. Bureau of Land Management (BLM) subdivides landscapes into three distance zones based on relative visibility from a viewpoint. The three zones are foreground-middleground, background, and seldom seen. Foreground-middleground zone includes viewing locations that are less than three to five miles away. Areas beyond the foreground-middleground zone 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. (BLM 1986) The Santa Cruz Mountains and Diablo Mountain range are in the seldom-seen zone from the project site. The seldom-seen zone is viewed in less detail by the observer; most visual effects blend with the landscape because of distance. The baylands are about one and a quarter mile to the northeast, and the downtown San Jose high-rise skyline seven miles south. The public view of the baylands and the downtown high-rise skyline from the project site would not be noticeable due to distance and/or aboveground buildings, structures, earthwork, trees, and vegetation.

Coyote Creek is to the east of the project site. The creek is contained within levees. It is owned by the Santa Clara Valley Water District. Coyote Creek Trail, a public trail owned and maintained by the City of Milpitas runs along the east levee of the creek. The dense line of mature trees on and along the west levee screens or limits the public view of the project site from the creek and trail.

Guidelines Appendix G Environmental Checklist Form, I. Aesthetics, c. states "Public views are those that are experienced from publicly accessible vantage point."

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?

The proposed project is within an urbanized area.[6] Based on information from the U.S. Census Bureau, the City of San Jose 2020 population was 1,013,240 (US Census 2020). A population greater than 100,000 constitutes an urbanized area. As a result, the applicable part of the above question pertaining to zoning and other regulations governing scenic quality is discussed.

Construction and Operation

Less Than Significant Impact. Construction and operation of the project would not conflict with applicable zoning and other regulations governing scenic quality.

The LI zoning district "is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects.... Examples of typical uses are warehousing, wholesaling, and light manufacturing." (San Jose 2021, § 20.50.010. C, 4)

The project would have 224 natural gas generators to provide backup generation in case of an interruption in electrical supply from Pacific Gas and Electric Company. The manufacturer and performance data provided by the applicant shows that the exhaust stack gas temperatures of the generators would be 783 degrees at 100 percent load, 755 degrees at 75 percent load, and 727 degrees at 50 percent load (Jacobs 2021o).[7] These extremely high temperatures would evaporate (eliminate) the necessary saturated moisture (vapor) rising from the exhaust stack that could condense in the atmosphere becoming a publicly visible water vapor plume (visible plume). As a result, the operation of the proposed generators would not result in visible plumes that would be hazardous or a nuisance to the site and adjacent properties.

- The LI zoning district has a maximum building height of 50 feet. (San Jose 2019, § 20.50.200)

The two data center buildings are approximately 31 feet tall. (Jacobs 2021o, pg. 3.1-4)

- The LI zoning district requires landscaping on the project site and its maintenance. (San Jose 2019, § 20.50.260)

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6 Public Resources Code section 21071 an "urbanized area" includes "(a) An incorporated city that meets either of the following criteria: (1) Has a population of a 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."

7 Table 3.3-10. Generator Source Parameters for Dispersion Modeling. (Jacobs 2021o)

The site plan shows landscaping on the project site. As shown, there are two main landscape areas. One area fronts the proposed road Nortech Extension and primary egress onto the project site. The other landscape area fronts Milpitas Alviso Road and the secondary egress to the site. (Jacobs 2021o, Figure 1-3R)

- The city's Riparian Corridor Policy Study requires 100-foot setbacks from nearby waterways and precludes buildings, outdoor storage, parking and other paved areas, and ornamental landscaping within the setback zone. (Jacobs 2019a, pg. 3.11-4)

As shown on the site plan no landscaping is being installed/planted within the 100-foot setback from the toe of the Coyote Creek levee. (Jacobs 2019a, Figure 1-3)

- The City of San Jose has a tree removal control ordinance. (San Jose 2019, Chapter 13.32) A tree removal permit is required from the City prior to the removal of any trees covered under the ordinance. Prior to the issuance of a tree removal permit, the City requires that a formal tree survey be conducted, which indicates the number, species, trunk circumference, and location of all trees that will be removed or impacted by the project.

According to the applicant's Tree Inventory Report, there are approximately 195 trees along the project site perimeter another 95 trees are elsewhere on the site. Existing perimeter trees are to remain. Staff has proposed **BIO-12** as a mitigation measure. Refer to **Section 4.4 Biology** for details.

For these reasons, the project would be consistent with policies in the General Plan and conform with zoning listed in the Regulatory Background subsection, above. In addition, the city reviews and regulates the aesthetic and functional aspects of structures and sites to require, as the city determines necessary, aesthetic and functional improvements to the site and to any structures thereon, and to require offsite improvements through the Site Development Permit (San Jose 2020a, § 20.100.600).

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

Light trespass is "light falling where it is not wanted or needed." (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) In addition, there is reflectivity. 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)

Construction and Operation

Less Than Significant Impact. Construction and operation of the project would not create a new source of substantial light or glare adversely affecting day or nighttime views in the area.

The LI zoning district requires ground mounted light fixtures to not exceed twenty-five feet in height. Light fixture heights should not exceed eight feet when adjacent to residential uses unless the setback of the fixture from the property line is twice the height of the fixture. (San Jose 2021, § 20.50.250) The project includes outdoor lighting for driveways, entrances, walkways, parking areas, and security purposes. The project site does not border residential uses.

The project design includes directional and shielded light fixtures to keep lighting onsite, and away from riparian areas (Jacobs 2021o). The project design includes installing LED lighting throughout the project site. Pole-mounted lighting shown on project plan(s) does not exceed 25 feet in height.

The construction laydown and staging areas may have nighttime lighting for security purposes. Outdoor construction-related lighting would be directed onsite and away from surrounding properties and the Coyote Creek riparian corridor. Light fixtures are to be hooded/shielded.

4.1.3 Mitigation Measures

None.

4.1.4 References

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4.2 Agriculture and Forestry Resources

This section describes the environmental setting and regulatory background 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.

4.2.1 Environmental Setting

Property records indicate the project site was in agricultural uses since at least the early 1920s. Row crops were cultivated on the site from approximately 1985 through 2000, after which the property's agricultural land was fallowed (Cornerstone Earth Group 2015). There were two vacant residences and a storage shed/warehouse onsite, which were demolished in 2021 after a fire significantly affected the safety of one of the dwellings.

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 current Santa Clara County Important Farmland Map shows that the project site is classified Grazing Land, which applies to "land on which the existing vegetation is suited to the grazing of livestock" (CDOC 2019a).

The FMMP classifies 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. The FMMP classifies Other Land to identify land not included in any other mapping category. "Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land" (CDOC 2019a).

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 San Jose General Plan and Zoning Ordinance. *Envision San Jose 2040 General Plan* (General Plan) shows that the project site is within an area designated as LI, Light Industrial, on the General Plan land use map. "This designation is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. Warehousing, wholesaling, and light manufacturing are examples of typical uses in this designation" (San Jose 2020). The General Plan designates most properties west and south of the project site as Industrial Park, Combined Industrial/Commercial, or Light Industrial. An extensive area north of the site is designated PQP, Public/Quasi-Public; this area includes the San Jose-Santa Clara Regional Wastewater Facility. The project site is also within the Alviso Planning Area, which covers the northernmost portion of the City of San Jose (City). The Alviso Master Plan is incorporated into the General Plan, and consistent with the General Plan, the land use designation for the project site is Light Industrial (San Jose 2016, 2020). The project site is in the LI, Light Industrial zoning district, which is intended for the same types of uses described for the LI General Plan designation (San Jose 2021, § 20.50.010, subd. (4)).

4.2.2 Environmental Impacts

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 and Operation

No Impact. The project site was in agricultural uses at least from the early 1920s through the end of the century; the property's agricultural land was fallowed after 2000. Staff reviewed past Important Farmland maps on the CDOC website (CDOC 2019a). The 1984 Important Farmland map shows the project site was within a larger area classified as Prime Farmland, which applies to "irrigated land with the best combination of physical and chemical features able to sustain long term production of agricultural crops." Starting in approximately 1996, the area classified as Prime Farmland began to be reduced as the region's agricultural uses gradually ceased and properties were converted to urban uses. The 2012 Important Farmland map shows the proposed project site was the last remaining property classified as Prime Farmland in the area north of State Route 237 and west of Coyote Creek.

CDOC publishes Farmland Conversion Reports covering 2-year periods. The 2006–2008 reporting period documented a record loss of agricultural land in California, and Prime Farmland in particular. The Santa Clara County land use conversion table for 2006–2008 noted that the conversion from Prime Farmland to Grazing Land occurred primarily due to land left idle for three or more update cycles (CDOC 2019b).[3] Past Important Farmland maps show that the project site classification converted from Prime Farmland to Grazing Land during the 2012–2014 reporting period. The current Santa Clara County Important Farmland Map shows that the project site is part of an area classified as Grazing Land (CDOC 2019a). Except for the Coyote Creek corridor immediately east of the project site,

3 The CDOC land use conversion tables show the Grazing Land data separate from the Important Farmland data; the latter category includes prime farmland, unique farmland, and farmland of statewide or local importance.

the predominant FMMP designation for properties in the region is Urban and Built-up Land. The proposed project's linear pipelines would cross properties classified as Grazing Land or Other Land immediately west of the site.

Staff also used the CDOC Land Evaluation and Site Assessment (LESA) Model to help determine whether converting agricultural land at the project site could be considered significant. The LESA model involves assessing and scoring several factors. The "land evaluation" factors measure the inherent soil-based qualities of land as they relate to agricultural suitability. The "site assessment" factors measure social, economic, and geographic attributes that contribute to the overall value of agricultural land (CDOC 2011). Staff's LESA model analysis for the project site indicates an overall economic restriction that has caused farming the project site to become infeasible. CDOC staff confirmed CEC staff's assumption that development encroachment in San Jose is driving prices up, thereby creating an economic restriction that has made farming the property infeasible for irrigated or dryland production (CEC 2020d). Using LESA model scoring thresholds, staff concludes that conversion of agricultural land at the project site is not considered significant. **Appendix C** of this environmental impact report (EIR), "California Agricultural LESA Model Analysis," provides analysis and scoring information for the project site.

Starting with the 2012–2014 reporting period, CDOC Important Farmland maps have shown the project site classification as Grazing Land. The current Santa Clara County Important Farmland Map shows that the project site is classified Grazing Land, which is not an Important Farmland classification (CDOC 2019a). CDOC staff concurred that the FMMP maps show that the site is not mapped as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, which means that no impact relating to conversion of Important Farmland would occur (CEC 2020d). Therefore, the proposed project would not convert Farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) 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 and Operation

No Impact. The project site is zoned LI, Light Industrial, which is not an agricultural zoning district. Segments of the proposed project's linear pipelines would cross properties in two areas west of the project site that are in the A, Agriculture zoning district. However, both of these areas are within an extensive area designated as PQP, Public/Quasi-Public, on the General Plan land use map (San Jose 2020). The project site and proposed linear pipelines are not within or near any areas designated as Agriculture by the General Plan.

Agricultural operations on former farmland in the project area ceased several years ago. City Planning Division staff provided information on the project site from the City's records, stating that mapping data and the preliminary title report for the site indicate no evidence of the property ever having been subject to a Williamson Act contract (CEC 2020e). In its discussion of impacts on agricultural resources, the *Draft Program Environmental Impact Report for the Envision San Jose 2040 General Plan* states that only the "Lester Property" in the southern portion of San Jose was under a Williamson Act contract (San Jose 2011). As of publication of the City's EIR, the Lester Property was planned as a future park site.

The project site and pipeline corridors are within areas designated for urban uses in the General Plan, indicating that the City is guiding a pattern of land uses in the area that includes existing and proposed industrial, commercial, and quasi-public developments. Therefore, the proposed project 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 and Operation

No Impact. The project site is in the LI, Light Industrial zoning district, which is intended for a wide variety of industrial uses (San Jose 2021, § 20.50.010, subd. (4)). Development in the region includes various urban uses, including industrial, commercial, and quasi-public uses. No land is zoned for forest land, timberland, or timberland production; therefore, project construction, operation, and maintenance would cause no 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 and Operation

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 and Operation

No Impact. Agricultural operations on former farmland in the project area ceased several years ago. As discussed above, past Important Farmland maps on the CDOC website show that the project site designation was changed from Prime Farmland to Grazing Land during the 2012–2014 reporting period (CDOC 2019a). CDOC staff concurred that the site is not mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Consistent with CEC staff's conclusion, no impact relating to conversion of Important Farmland would occur (CEC 2020d). Project construction, operation, and maintenance would cause no changes in the existing environment that would cause conversion of Farmland to a non-agricultural use or forest land to a non-forest use. Therefore, no environmental impact would occur.

4.2.3 Mitigation Measures

None.

4.2.4 References

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4.3 Air Quality

This section describes the environmental setting and regulatory background, and discusses impacts specific to air quality associated with the construction and operation of the project.

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.

The project would include 224 natural gas-fired engine-generator sets to provide site power during infrequent and unplanned emergencies, and for load shedding, demand response and behind-the-meter resource adequacy (RA) ancillary services. Up to 500 hours of operation could occur for each of the 224 natural gas-fired generators for resource load shedding and behind the meter RA purposes (Jacobs 2021o). While the applicant used 500 hours when estimating air emissions, the applicant's responses to Data Request Set #6, state that the "[Base Interruptible Program] currently requires a 30-minute response to an event dispatch and requires participants to be available up to 180 hours per year []; however, historically it has not been called more than 30 hours annually in the last 12 years []." (Jacobs 2021y). For more information see **Appendix B**.

The project includes two diesel-fired administrative generators that would be used only for readiness testing and during emergencies. Emergency operations would be infrequent and for unplanned circumstances, which are beyond the control of the project owner. Emissions from emergency operation are not regular, expected, or easily quantifiable such that they cannot be analyzed with certainty.

Background on Air Quality Evaluation

This air quality evaluation assesses the degree to which the project 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 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 following text describes how this air quality section is organized.

Criteria Pollutant Evaluation

The California Air Resources Board (ARB) and United States 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." Ambient air quality standards appear in Section 4.3.1 of this analysis.

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 from the internal combustion engines, and the secondary pollutant component of PM2.5 is formed in the air by transformation of gaseous nitrogen oxides (NOx) and sulfur oxides (SOx) into particles. In this case, the NOx and SOx emissions are precursors to the formation of the secondary aerosol pollutant.

Nitrogen oxides include nitric oxide (NO) and nitrogen dioxide (NO_2). In the case of stack emissions from natural gas-fired and 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. Most ozone 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." Any given 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. Consistency of the project with the applicable air quality management plan is addressed as part of environmental checklist question "a" in this air quality analysis.

For those facilities subject to Energy Commission 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 this project is going through an exemption to the AFC process and is not an AFC, the DOC is not prepared. If the proposed generating capacity is 50 megawatts (MW) to 100 MW, 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 air quality analysis focuses upon whether the proposed project would meet local, state and federal requirements. The local air pollution control district's New Source Review (NSR) program: defines the facility's potential-to-emit; determines whether the sources would achieve minimum performance standards; assesses whether the sources would achieve the Best Available Control Technology (BACT) requirements; and determines whether the project would trigger offset requirements. These issues are addressed as part of environmental checklist question "b" in this air quality analysis.

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. Since TACs have no AAQS that specify health-based levels considered safe for everyone, a health risk assessment (HRA) is used to determine if people might be exposed to those types of pollutants at unhealthy levels.

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 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 associated with acute and chronic health effects.

The impact evaluation of toxic pollutants focuses on the project's incremental impact due to pollutant exhaust from the natural gas engines, and diesel particulate matter (DPM) exhaust from construction equipment and from the stacks of the diesel-fueled backup engines. For natural gas-fired equipment, the major toxic pollutants include benzene, formaldehyde, toluene, and xylene. For diesel-fueled backup engines, DPM is the primary TAC of concern. This issue is addressed as part of environmental checklist question "c" in this air quality analysis.

Odor Impact Evaluation

Aside from criteria air pollutants and TACs, impacts may arise from other emissions, notably related to odor. This issue is addressed as part of environmental checklist question "d" in this air quality analysis.

4.3.1 Environmental Setting

The proposed project is located at 1657 Alviso-Milpitas Road in the City of San Jose. The project is bound by vacant land to the north, Ranch Drive to the east, Milpitas Alviso Road to the south, and Zanker Road to the west.

Refer to the **Section 3 Project Description** for further details regarding the project.

Criteria Pollutants

The U.S. EPA and the ARB have established AAQS for several pollutants based on their adverse health effects. The U.S. EPA has set NAAQS for ozone (O_3), carbon monoxide

(CO), NO_2, particulate matter less than or equal to 10 microns (PM10), 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 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 4.3-1**.

Attainment Status and Air Quality Plans

The U.S. 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 BAAQMD. **Table 4.3-2** summarizes attainment status for the relevant criteria pollutants in the SFBAAB with both the federal and state standards.

TABLE 4.3-1 NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards [a]	National Standards [b]	
			Primary	Secondary
O_3	1hour	0.09 ppm (180 μg/m^3)	—	Same as Primary Standard
	8hour	0.070 ppm (137 μg/m^3)	0.070 ppm (137 μg/m^3)	
PM10	24hour	50 μg/m^3	150 μg/m^3	Same as Primary Standard
	Annual Mean	20 μg/m^3	—	
PM2.5	24hour	—	35 μg/m^3	Same as Primary Standard
	Annual Mean	12 μg/m^3	12 μg/m^3	15 μg/m^3
CO	1hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
	8hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
NO_2	1hour	0.18 ppm (339 μg/m^3)	0.100 ppm (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]	1hour	0.25 ppm (655 μg/m^3)	75 ppb (196 μg/m^3)	—
	3hour	—	—	0.5 ppm (1,300 μg/m^3)
	24hour	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/m3 = micrograms per cubic meter; mg/m3 = milligrams per cubic meter; "—" = no standard

a California standards for O3, CO (except 8-hour Lake Tahoe), SO2 (1 and 24 hour), NO2, 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 O3, PM, NO2 [see note c below], and those based on annual arithmetic mean) are not to be exceeded more than once a year. The 8-hour O3 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. The 24 hour PM10 standard of 150 µg/m3 is not to be exceeded more than once per year on average over a 3-year period. The 24-hour PM2.5 standard is attained when the 3-year average of 98th percentile concentration is less than or equal to 35 µg/m3.
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 0.100 ppm.
d On June 2, 2010, a new 1-hour SO2 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 previous SO2 standards (24-hour and annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO2 standards or is not meeting the requirements of a SIP call under the previous SO2 standards (40 CFR 50.4(3)). A SIP call is a US EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.
Sources: BAAQMD 2021c, US EPA 2021a.

TABLE 4.3-2 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 "non-attainment" 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 PM2.5 NAAQS from 15.0 to 12.0 µg/m^3. In December 2014, US EPA issued final area designations for the 2012 primary annual PM2.5 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 2018b). This final rule designated the SFBAAB as attainment/unclassifiable for the 2010 SO_2 primary NAAQS.
d See noted under **Table 4.3-1**.

Sources: BAAQMD 2021c, US EPA 2013, US EPA 2014, US EPA 2018b.

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 west, and the Diablo Range to the northeast. 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

There are two background ambient air quality monitoring stations in San Jose: the Jackson Street station and the Knox Avenue station. The 158B Jackson Street, San Jose monitoring station is 5.5 miles south-southeast of the project site and is most representative of local conditions. Ambient air quality data for all pertinent criteria air pollutants are monitored at the Jackson Street station. The Knox Avenue station is further south of the project site, and it provides micro-scale data in proximity to the junction of US Highway 101 and Interstate 680/280. The spatial scale of NO_2 monitoring at the Jackson Street station is representative of neighborhood or larger scale conditions for San Jose, Sunnyvale, and Santa Clara (BAAQMD 2018).

Table 4.3-3 presents the air quality monitoring data from the San Jose – Jackson Street station from 2016 to 2020, 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 in **Table 4.3-3** 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 in recent years, especially between September to mid-November during wildfire activity. The ozone, PM10, and PM2.5 in 2017, 2018, and 2020 illustrate the effect of events like extensive northern California wildland fires. [1] Even though fires tended to be

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

far 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. For a conservative analysis, staff uses the background ambient air quality concentrations from 2018 to 2020 to represent the baseline condition at the project site.

TABLE 4.3-3 AMBIENT AIR QUALITY MONITORING DATA

Pollutant	Averaging Time	2016	2017	2018	2019	2020
O_3 (ppm)	1-hour	0.087	**0.121**	0.078	**0.095**	**0.106**
	8-hour	0.066	**0.098**	0.061	**0.081**	**0.085**
PM10 ($\mu g/m^3$)	24-hour	41	**70**	**121.8**	**77.1**	**137.1**
	Annual	18.5	**21.3**	**23.1**	19.1	**24.8**
PM2.5 ($\mu g/m^3$)	24-hour (98th percentile)	19	34.3	**73.4**	20.6	**56.1**
	Annual	8.4	9.5	**12.9**	9.1	11.5
NO_2 (ppb)	1-hour (maximum)	51.1	67.5	86.1	59.8	51.9
	1-hour (98th percentile)	42	50	59	52	45
	Annual	11.26	12.24	12.04	10.63	9
CO (ppm)	1-hour	2	2.1	2.5	1.7	1.9
	8-hour	1.4	1.8	2.1	1.3	1.5
SO_2 (ppb)	1-hour (maximum)	1.8	3.6	6.9	14.5	2.9
	1-hour (99th percentile)	2	3	3	2	2
	24-hour	0.8	1.1	1.1	1.5	0.8

Notes: All data from San Jose-Jackson Street monitoring station.
Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.
Sources: ARB 2021a (iADAM), US EPA 2021b.

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 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 define clean air (ARB 2021b).

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 NOx, including NO_2. ROG and NOx are known as precursor compounds for ozone. 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. Nitrogen oxides (includes NO_2 and NO – nitric oxide) react 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

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 2021]). TACs, also referred to as 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[2] 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.

The primary on-site TAC emission sources for the project would be the natural gas-fired generators and diesel-fired administrative generators (Jacobs 2021o, pg. 3.3-26 and pg. 3.3-27). The TACs from the natural gas-fired generators were speciated total organic gases (TOG) from natural gas combustion, including:

- Acetaldehyde
- Acrolein
- Benzene
- Formaldehyde

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

- Naphthalene
- Toluene
- Polycyclic aromatic hydrocarbons (PAHs)
- Xylene
- 1,1,2,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- 1,1-Dichloroethane
- 1,3-Butadiene
- Carbon Tetrachloride
- Chlorobenzene
- Chloroform
- Ethylbenzene
- Ethylene dibromide
- Methanol
- Methylene chloride
- Styrene
- Vinyl chloride

The TACs from the diesel-fired administrative generators were DPM, ammonia, and the speciated TOG in diesel exhaust. The TACs from speciated TOG in diesel exhaust include the following:

- Acetaldehyde
- Acrolein
- Benzene
- Formaldehyde
- Naphthalene
- Propylene
- Toluene
- Total PAHs23
- Xylene

Diesel exhaust is a complex mixture of thousands of gases and fine particles and contains over 40 substances listed by the U.S. EPA as hazardous air pollutants and by ARB as toxic air contaminants. The solid material in diesel exhaust is known as DPM (ARB 2021c). 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 is also characterized by ARB as "particulate matter from diesel-fueled engines."

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, pg. 5-1). Numerous other health effects also have been linked to exposure to TACs, including heart disease, Sudden Infant Death Syndrome, respiratory infections in children, lung cancer, and breast cancer (OEHHA 2015).

Diesel exhaust deserves particular attention mainly because of its ability to induce serious noncancerous effects and its status as a likely human carcinogen. 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" (U.S. EPA 2002).

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, pg. 5-8). The potential sensitive receptor locations evaluated in the HRA for SJDC include (Jacobs 2021o, pg. 3.3-22):

- Residential dwellings, including apartments, houses, and condominiums
- Schools, colleges, and universities
- Daycare centers
- Hospitals and health clinics
- 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, pg. 5-2 and pg. 5-3).

Staff previously used a 6-mile radius for cumulative impacts analyses of power plant cases. Based on staff's modeling experience, beyond 6 miles there is no statistically significant concentration overlap for non-reactive pollutant concentration between two stationary emission sources. The 6-mile radius is more appropriate to be used for the turbines with tall stacks and more buoyant plumes. Both the natural gas and diesel emergency standby engines would result in more localized impacts due to shorter stacks and less buoyant plumes. The worst-case impacts of the natural gas and diesel emergency standby engines would occur at or near the fence line and decrease rapidly with distance from fence line. This also explains why the BAAQMD recommends 1,000 feet as the boundary for the cumulative health risks assessment in the BAAQMD CEQA Guidelines.

The project site is approximately 64.5 acres and is designated for light industrial use by the City of San Jose (Jacobs 2021o, pg.1-2). The SPPE application shows the results of a sensitive receptor search conducted within two kilometers and finds that the sensitive receptor locations near the project site include primarily schools, preschool through elementary-level; daycares; health centers; and a senior care center. The nearest residential neighborhood is located approximately 1,650 feet (0.3 mile) south of the project site along Murphy Ranch Road in Milpitas (Jacobs 2021o, pg. 3.3-23). Also, there are two groups of sensitive receptors near the project. One is located 0.5 mile northeast of the project boundary, another is located 0.7 miles east of the project boundary. **Figure 4.3-1** shows the map of sensitive receptors near the project.

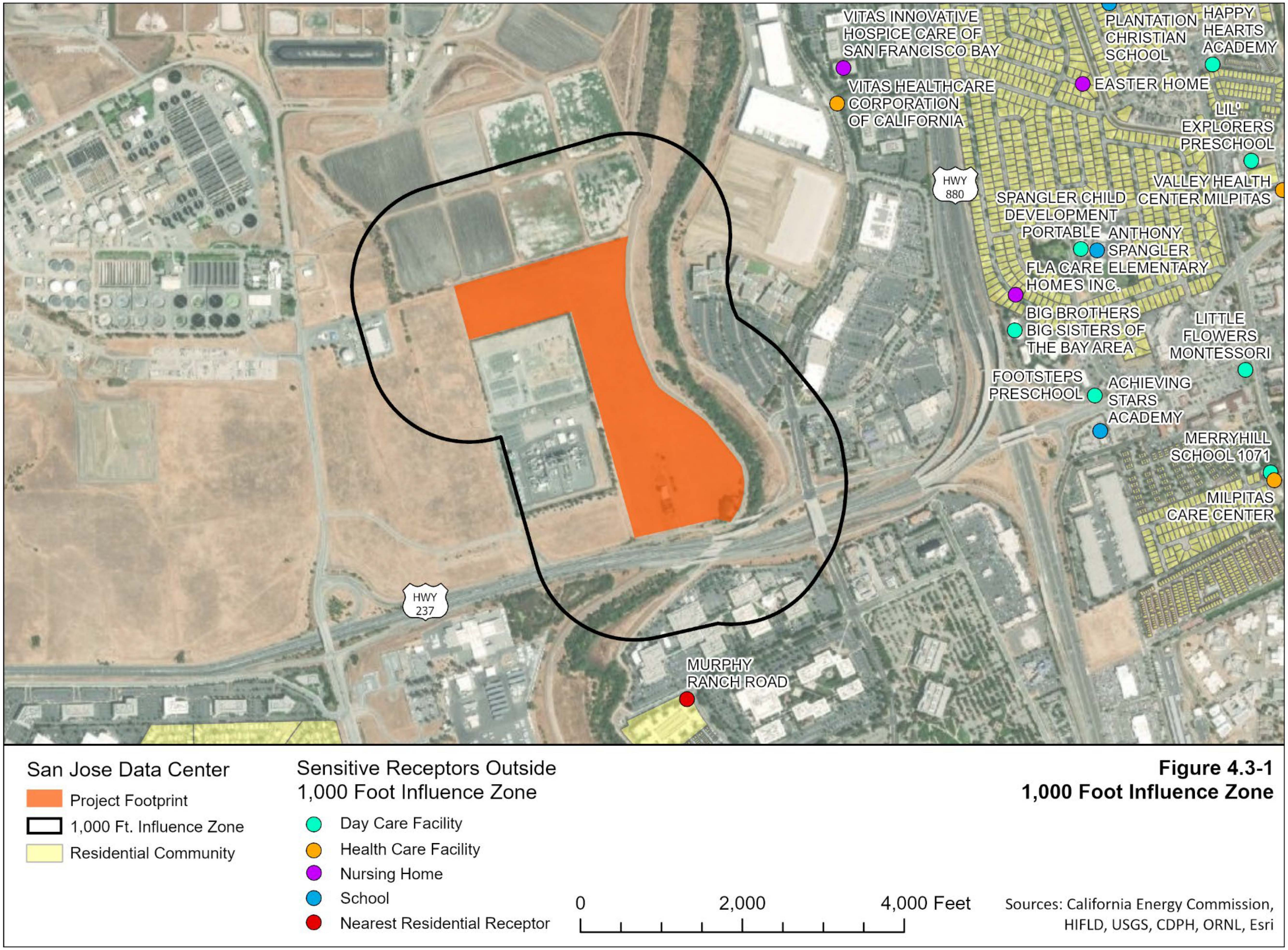

Figure 4.3-1
1,000 Foot Influence Zone

Sources: California Energy Commission, HIFLD, USGS, CDPH, ORNL, Esri

Regulatory Background

The air quality evaluation below assesses the degree to which the project would potentially cause a significant impact according to CEQA guidelines established by the state of California. Federal, state, and regional agencies share responsibility for managing and regulating air quality in the San Francisco Bay Area Air Basin.

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 (Title 42, U.S. Code section 7401 *et seq.*), the U.S. 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 U.S. EPA for areas in nonattainment with NAAQS. The SIP, which is reviewed and approved by the U.S. 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. The project is not expected to be subject to PSD, with a final determination made by the local district at the time of permitting.

New Source Performance Standard (NSPS) Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. Federal CAA section 111 (Title 42, U.S. Code section 7411) authorizes the U.S. EPA to develop technology-based standards for specific categories of sources. Manufacturers of emergency stationary internal combustion engines (ICE) using diesel fuel must certify that new engines comply with these emission standards (40 CFR 60.4205). Under NSPS Subpart IIII, owners and operators of emergency engines must limit operation to a maximum of 100 hours per year for maintenance and testing, including some use if necessary to protect grid reliability; there is no time limit on the use of an emergency stationary ICE in emergency situations [40 CFR 60.4211(f)]. The project's two administrative Tier 4 diesel-fired generators would be subject to and likely to comply with the requirements in NSPS Subpart IIII (Jacobs 2021o).

NSPS Subpart JJJJ—Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. Manufacturers, owners and operators of stationary spark-ignition ICE, including natural gas-fired engines in non-emergency applications, must verify that the engines achieve certain emission standards for NOx, CO, and VOC.

For the project's natural gas-fired engine-generator sets, rated over 500 hp and manufactured after July 1, 2010, emissions of NOx must not exceed 1.0 gram/hp-hr under NSPS Subpart JJJJ. The project would achieve this standard through the proposed use of a 3-way catalyst for the natural gas-fired engines, consistent with BACT requirements. The project natural gas-fired engines would also be subject to the source testing, recordkeeping, and reporting requirements specified in NSPS Subpart JJJJ for non-emergency engines (Jacobs 2021o).

National Emission Standard for Hazardous Air Pollutants. Federal CAA section 112 (Title 42, U.S. Code section 7412) addresses emissions of hazardous air pollutants (HAPs). 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 U.S. 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.

NESHAP Subpart ZZZZ—Standards of Performance for Stationary Reciprocating Internal Combustion Engines. The requirements in NESHAP Subpart ZZZZ focus on emissions standards and operating limitations for engines that may be installed at a facility that is also likely to be a major source of HAPs. The project's engines would not be installed at a facility that is also a major source of HAPs. Under 40 CFR 63.6590(c)(1), the NESHAP Subpart ZZZZ requirements for the project would be satisfied by meeting the requirements of NSPS Subpart JJJJ (Jacobs 2021o).

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 the project's two administrative Tier 4 diesel-fired generators. 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.

ARB Distributed Generation Certification Program. The Distributed Generation (DG) Certification Program applies to a broad range of any "electrical generation technology" that are exempt from local air district permit requirements to require certification for achieving specific criteria air pollutant emission standards. The eligible DG technologies include reciprocating engines, external combustion engines, combustion turbines, photovoltaics, wind turbines, fuel cells, or any combination thereof (17 CCR Section 94201, et seq.). For DG Certification, the technology must not exceed certain emissions standards, expressed in terms of pounds-per-megawatt-hour (lb/MWh) as verified by ARB.

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 U.S. Geological Survey map detailing natural occurrence of asbestos in California, NOA is not expected to be present at the project site (Van Gosen and Clinkenbeard 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 GHG.

BAAQMD California Environmental Quality Act Guidelines. BAAQMD publishes California Environmental Quality Act (CEQA) Air Quality 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 Air Quality Guidelines in May 2017 (BAAQMD 2017b).

BAAQMD Regulation 2, Rule 2: New Source Review (NSR). This rule applies to all new or modified sources requiring an Authority to Construct and/or Permit to Operate. The NSR process 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). The NSR process also establishes the requirements to offset emissions increases and to protect the NAAQS.

The BACT requirement for natural gas-fired rich burn engines over 50 horsepower would require use of a 3-way catalyst to control NOx, VOC, and CO. The project's 224 natural gas-fired generators, engines would be equipped with a 3-way catalyst system to reduce emissions of NOx, VOC, CO, and air toxics. The system would be configured as two catalysts (primary and secondary) in series on each of the engine banks and does not require the use of urea (Jacobs 2021o).

For emergency-use diesel engines with output over 1,000 brake horsepower, BAAQMD updated the definition of BACT in December 2020 to reflect use of engines achieving Tier 4 exhaust standards (BAAQMD 2020); this requires Tier 4-compliant engines that may include Tier 2 engines abated by catalyzed diesel particulate filter (DPF) and selective catalytic reduction (SCR). The project proposes to use two diesel engines for administrative generators that would both be equipped with SCR to achieve Tier 4 standards (Jacobs 2021o). The 1.25-MW unit would be subject to the BACT for diesel engines over 1,000 brake horsepower, and the smaller 0.5 MW unit would not be subject to the Tier 4 BACT definition. However, the BAAQMD would make the determination of BACT during the permitting process.

To prevent sources from worsening regional nonattainment conditions, the NSR rule requires offsets 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 (PTE) 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 PTE to determine eligibility for emission reduction credits (ERCs) from the Small Facility Banking Account for emergency backup power generators (BAAQMD 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 amount of offsets required would be determined only upon the permitted emissions from readiness testing and maintenance and not the emissions from emergency operation. 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 or install emissions controls to achieve a PTE of less than 35 tons per year (BAAQMD 2019).

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 recommended 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 for use in an HRA, as identified by California Office of Environmental Health Hazard Assessment (OEHHA), are listed in Table 2-5-1 of BAAQMD Rule 2-5.

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 project's natural gas-fired engines and diesel-fired administrative generators. 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.

Local

City of San Jose General Plan. *Envision San Jose 2040 General Plan* includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The relevant air quality policies applicable to the project include:

- MS-10.1: Assess projected air emissions from new development in conformance with the BAAQMD CEQA Guidelines and relative to state and federal standards. Identify and implement feasible air emission reduction measures.
- MS-11.2: For projects that emit toxic air contaminants, require project proponents to prepare health risk assessments in accordance with BAAQMD-recommended procedures as part of environmental review and employ effective mitigation to reduce possible health risks to a less than significant level. Alternatively, require new projects (such as, but not limited to, industrial, manufacturing, and processing facilities) that are sources of TACs to be located an adequate distance from residential areas and other sensitive receptors.
- MS-13.1: Include dust, particulate matter, and construction equipment exhaust control measures as conditions of approval for subdivision maps, site development and planned development permits, grading permits, and demolition permits. At minimum, conditions shall conform to construction mitigation measures recommended in the current BAAQMD CEQA Guidelines for the relevant project size and type.

In addition, goals and policies throughout the *Envision San Jose 2040 General Plan* encourage a reduction in vehicle miles traveled through land use, pedestrian and bicycle improvements, and parking strategies that reduce automobile travel through parking supply and pricing management.

City of San Jose, Natural Gas Infrastructure Prohibition. See **Section 4.8 Greenhouse Gas Emissions** for a discussion on this prohibition.

Significance Criteria

This analysis is based upon the methodologies and related thresholds in the most recent BAAQMD CEQA Air Quality Guidelines (BAAQMD 2017b). These methodologies include qualitative determinations and quantification of whether project construction or operation, including readiness testing and maintenance, would exceed numeric emissions and health risk thresholds (BAAQMD 2017b).

BAAQMD project-level thresholds of significance for criteria pollutants and precursor pollutants and TAC health risks that apply during construction and operation are shown in **Table 4.3-4**. 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 construction periods, 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.

TABLE 4.3-4 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	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
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.

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 impacts at any offsite location do not exceed relevant SILs, 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.[3] The BAAQMD thresholds of significance are an important aspect of staff's air quality analysis. 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.

BAAQMD does not have significance criteria in terms of PM10 concentrations or 24-hour concentrations of PM2.5. To determine if the project could contribute to or create a substantial pollutant concentration for the nonattainment pollutant PM10, this analysis relies on the US EPA PM10 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). The same regulation [40 CFR 51.165(b)(2)] also established the US EPA PM2.5 SILs concentrations for 24-hour impacts (1.2 μg/m^3) and for annual impacts (0.3 μg/m^3).

The BAAQMD significance threshold for a project-level increase in PM2.5 concentrations is also 0.3 μg/m^3 (as shown in **Table 4.3-4**). However, in April 2018, the US EPA issued *Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program* (US EPA 2018a), which recommends PM2.5 SILs levels for 24-hour impacts to be 1.2 μg/m^3 [as in 40 CFR 51.165(b)(2)] and for annual impacts to be 0.2 μg/m^3 (lower than 0.3 μg/m^3). It should be noted that the US EPA SILs values are all based on the forms of the applicable NAAQS. For example, the 24-hour PM2.5 SILs of 1.2 μg/m^3 is based on the 98th percentile 24-hour concentrations averaged over 3 years. The annual PM2.5 SILs of 0.2 μg/m^3 is based on a 3-year average of annual average concentrations. For this analysis, staff uses the US EPA SILs as well as the BAAQMD significance threshold to determine impact significance of PM2.5 concentrations.

3 This approach provides a complete analysis that describes the foreseeable effects of the project in relation to all potential air quality related health impacts, including impacts of criteria pollutants to sensitive receptors; and therefore, addresses the California Supreme Court December 2018 *Sierra Club v. County of Fresno* opinion (https://www.courts.ca.gov/opinions/archive/S219783A.PDF).

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. The significance thresholds for TACs and PM2.5 are listed in **Table 4.3-4** 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 (µg/m3)

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 $\mu g/m^3$

4.3.2 Environmental Impacts

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

This section considers the project's consistency with the applicable air quality management plan. This is a qualitative determination that considers the combined effects of project construction and operation, including readiness testing and maintenance.

Construction and Operation

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 Clean Air Plan (BAAQMD 2017a).

A project would be consistent with the AQP if that project (BAAQMD 2017b, pg. 9-2 and 9-3):

1. Supports the primary goals of the AQP.

   The determination for this criterion can be met through consistency with the BAAMQMD-approved CEQA thresholds of significance. As can be seen in the discussions under environmental checklist criteria "b" and "c" of this air quality analysis, the project would have less than significant impacts related to the BAAQMD-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. The project-level applicable control measures set forth in the Bay Area 2017 Clean Air Plan (CAP) include: Decarbonize Electricity Generation (EN1), Green Buildings (BL1), and Bicycle and Pedestrian Access and Facilities (TR9). The project would comply with these control measures through compliance with the *Envision San Jose 2040 General Plan* (San Jose 2020) and the City's Greenhouse Gas Reduction Strategy, as demonstrated in more detail in **Section 4.8 Greenhouse Gas Emissions**.

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.

The analysis in this section demonstrates that the project emissions would not exceed BAAQMD thresholds of significance, as discussed under criterion "b" of the environmental checklist, and the project would not create substantial pollutant concentrations, relative to the ambient air quality standards, as discussed under question "c" of the environmental checklist. Thus, the project would be consistent with the Bay Area 2017 CAP and would have a less than significant impact related to implementation of the applicable AQP.

ARB Distributed Generation Certification Program. The project's natural gas-fired generators would not be "exempt" from air district permitting requirements, and therefore do not qualify for DG Certification under this program (Jacobs 2021o). However, the project application included a guarantee from the engine vendor that the natural gas-fired engines would achieve the DG Certification standards (Jacobs 2021t; Response to Data Request 66, TN 240082).

BAAQMD Regulation 2, Rule 2: New Source Review (NSR). The NOx PTE of the proposed project would be less than 35 tons per year. Therefore, the applicant would not be required to secure NOx offsets (Jacobs 2021o, pg. 3.3-34), and the BAAQMD would offset the NOx increase from the Small Facility Banking Account. Final details regarding the calculation of the facility's PTE and the ultimate NSR permitting requirements under the BAAQMD's Regulation 2, Rule 2, would be determined through the permitting process with the BAAQMD.

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 quantifies the project's non-attainment criteria pollutant emissions and other criteria pollutant emissions to determine whether the net emissions increase would exceed any of the BAAQMD emissions thresholds for criteria pollutants. TAC effects are not included because this section focuses only on criteria pollutants.

Construction

Less Than Significant with Mitigation Incorporated. Project construction would require approximately 17 months between approximately the 4th quarter of 2022 and the 1st quarter of 2024. Construction would include installation of the offsite linear features to be completed within the 17-month construction window. The onsite construction is expected to require a maximum of 215 workers (craft and supervisory) per month and an average of 108 workers per month (Jacobs 2021o, pg. 2-21).

Construction-phase emissions include demolition, excavation, and construction activities that cause exhaust from fuel combustion and fugitive dust. The emissions would result from use of construction equipment, demolition activities, soil disturbance, material movement, paving activities, and on- and offsite vehicle trips, such as material haul trucks, worker commutes, and delivery vehicles. Offsite construction emissions would occur as a result of materials transport to and from the site, and worker travel. Emissions within the first month would include demolition and excavation activities. The applicant's spreadsheet calculations rely on: construction equipment emission factors, horsepower, and load factors from the *User's Guide* for the *California Emissions Estimator Model (CalEEMod)*,[4] assuming a mix of equipment meeting Tier 3 and Tier 4 NOx and PM10 emission standards; paving emission factors from the *CalEEMod User's Guide*; and on- and offsite vehicle exhaust and idling emission factors from EMFAC2017 (Jacobs 2021o, pg. 3.3-14; Jacobs 2021s, Appendix 3.3A [TN 239413]).

The total onsite and offsite criteria air pollutant construction-phase emissions are summarized in **Table 4.3-5**.

4 CalEEMod was developed by the California Air Pollution Control Officers Association in collaboration with California Air Districts; the software allows estimation of directly emitted criteria air pollutants and direct and indirect greenhouse gas emissions for a variety of typical land use projects.

TABLE 4.3-5 CRITERIA POLLUTANT EMISSIONS FROM PROJECT CONSTRUCTION

Pollutant	Average Daily Emissions (lbs/day) [a]	Total Construction Emissions (tons)	BAAQMD Significance Thresholds for Construction-related Average Daily Emissions (lbs/day) [c]	Threshold Exceeded?
ROG/VOC	9.71	1.82	54	No
CO	70.7	13.2	None	N/A
NOx	53.5	10	54	No
SOx	0.24	0.04	None	N/A
PM10 [b]	6.49 (exhaust) 15.52 (fugitive)	1.21 (exhaust) 2.90 (fugitive)	82 (exhaust)	No
PM2.5 [b]	3.14 (exhaust) 1.58 (fugitive)	0.59 (exhaust) 0.30 (fugitive)	54 (exhaust)	No

Notes:
a There are no annual construction-related BAAQMD's thresholds of significance. The BAAQMD's thresholds are average daily thresholds for construction. Accordingly, the average daily emissions are the total estimated construction emissions averaged over the duration of construction (i.e., 22 workdays per month over 17 months).
b The average daily PM10 and PM2.5 exhaust emissions are compared to the BAAQMD's significance thresholds for exhaust emissions.
c BAAQMD 2017b, Table 2-1.
Source: Jacobs 2021o, Table 3.3-3; Jacobs 2021aa, Appendix 3.3A; Energy Commission staff analysis.

The average daily emissions shown in **Table 4.3-5** indicate that construction emissions would be lower than the applicable thresholds of significance for all criteria pollutants.

The BAAQMD's numerical thresholds for PM10 and PM2.5 construction-phase emissions apply to exhaust emissions only. There is no numerical threshold for fugitive dust generated during construction. The BAAQMD CEQA Guidelines recommend control of fugitive dust through BMPs in order to conclude that impacts from fugitive dust emissions are less than significant (BAAQMD 2017b). The applicant proposed measures that would incorporate the BAAQMD's recommended construction BMPs for fugitive dust (Jacobs 2021o; pg. 3.3-15). Staff reviewed the measures and finds them sufficient to address impacts from construction emissions. Staff recommends **AQ-1**, which would require implementation of fugitive dust control to ensure that PM10 and PM2.5 emissions are reduced to a level that would not result in a considerable increase of these pollutants. This impact would be reduced to less than significant with the implementation of **AQ-1**.

Operation

Less Than Significant Impact. Project operation includes emissions from the natural gas-fired generators that may be used for load shedding and demand response and the two diesel generators; each of these sources require periodic readiness testing and maintenance.

Overall, emissions during project operation would be caused by use of the generators, which are stationary sources requiring air permits from the BAAQMD, along with smaller sources that would be exempt from permitting. In addition to the generators, project operation includes emissions from day-to-day use and general operation of the data center buildings. These types of operational emissions are from diesel fuel storage tank refueling; operation of cooling units; offsite vehicle trips for worker commutes and material deliveries; and facility upkeep, such as architectural coatings, consumer product use, landscaping, water use, waste generation, and electricity use (Jacobs 2021o, pg. 3.3-18 and pg. 3.3-19).

Each of these types of emission sources are described in more detail below.

Natural Gas-Fired Generators. The project would include 224 natural gas-fired engine-generator sets to provide site power during infrequent and unplanned emergencies, and for load shedding, demand response and behind-the-meter resource adequacy (RA) ancillary services. Up to 500 hours of operation could occur for each of the 224 natural gas-fired generators for resource load shedding and behind the meter RA purposes, in addition to routine maintenance and testing. The 224 natural gas-fired generator engines would be packaged units, Enchanted Rock 21.9L, rated at 0.45 MW each at full load (Jacobs 2021o).

All of the project's generators would require intermittent operation for routine maintenance and testing to ensure they would function during an emergency event. The applicant proposes to allow up to 9 hours per year for maintenance and testing, plus up to 500 hours in any year for the 224 natural gas-fired generators for load shedding and demand response. In sum, total annual emissions estimates assume that all 224 natural gas fired generators would operate for 509 hours per year at 100 percent load for maintenance and testing and for load shedding, demand response and behind the meter RA capabilities (Jacobs 2021o, pg. 3.3-17).

Diesel-Fired Administrative Generators. Two certified Tier 4 diesel engine generators, with ratings of 1,817 and 731 horsepower (1.25 and 0.5 MW, respectively), would serve the administrative buildings. Each diesel-fired administrative generator engine would be equipped with a two-stage selective catalytic reduction (SCR) system. The first stage would control particulate matter by at least 85 percent via a diesel oxidation catalyst and diesel particulate filter (DPF); the second stage would control NOx, CO, VOCs, particulate matter, and non-criteria pollutants (including TACs and HAPs) to Tier 4 emissions standards via SCR (Jacobs 2021o, pg. 3.3-16). The two diesel-fired administrative generators could undergo readiness testing or maintenance operation at any time, including during simultaneous operation of the natural gas-fired generators (Jacobs 2021o, pg. 3.3-23).

Criteria pollutant emissions from testing the two diesel-fired administrative generators are quantified using information provided by the manufacturer and conservatively assuming Tier 2 emission factors for CO and NOx. Tier 4 emission factors are used for PM10 and PM2.5, which reflects the functioning of each generator's DPF and the likelihood that the SCR system would not achieve full functionality during the short-duration maintenance and testing events; DPM emissions are assumed equal to PM10/PM2.5 emissions. SO_2 emissions are based on the maximum sulfur content allowed in California diesel (15 parts per million by weight) and an assumed 100 percent conversion of fuel sulfur to SO_2. (Jacobs 2021o, pg. 3.3-16).

Ammonia would also be emitted during operation of the diesel-fired administrative generators, but only as a result of urea usage in the SCR. Although the SCR would not likely be fully functional during routine maintenance and testing events, ammonia emissions were conservatively included in the TAC emission estimates for routine operation.

Each of the two diesel-fired administrative generators would operate up to 42 hours per year per engine for readiness testing and maintenance (Jacobs 2021o, pg. 3.3-17). The Airborne Toxic Control Measure for Stationary Toxic Compression Ignition Engines (Title 17, Section 93115, CCR) limits testing to 50 hours per year per engine. Readiness testing and maintenance usually occur at different load conditions, although annual emissions estimates assume that all testing would be at full-load for the worst-case emissions (Jacobs 2021o, pg. 3.3-18).

Emergency Operations. The project's natural gas-fired generators and diesel-fired administrative generators are designed to serve as a supply of emergency backup power for the data center. Accordingly, emergency operations could also occur as a result of unplanned circumstances. Emissions that could occur in the event of a power outage or other disruption, upset, or instability that triggers emergency use of the generators would not occur on a regular or predictable basis (BAAQMD 2019) and are not included in the quantitative calculation of emissions increases. The potential ambient air quality impacts of emissions during emergency operations are analyzed qualitatively under criterion "c".

Diesel Storage Tank Refueling. Loading and storing diesel fuel within the storage tanks for each generator would cause emissions of organic compounds, depending on the throughput of fuel. The applicant conservatively estimates these emissions by assuming each of the two administrative generators could be operated for 42 hours per year, resulting in a combined throughput of up to 5,435 gallons of diesel annually (Jacobs 2021o, pg. 3.3-18).

Cooling Units. Closed circuit cooling units would be used and supplemented with wet cooling when the outdoor ambient air temperature is above 75 degrees Fahrenheit, and each of the proposed 64 cooling units would be equipped with a re-condensing system to remove moisture from the cooling air prior to discharge. With the re-condensing system, the air discharge would include little moisture and thus negligible particulate matter emissions (Jacobs 2021o, p. 3.3-19).

Mobile Sources. Routine operation of the data center buildings would cause emissions from motor vehicle trips generated by the use of the site. Mobile sources of emissions include the motor vehicles used mostly offsite for worker commutes and material deliveries. The applicant expects approximately 100 employees would be employed at the project site and commuting daily plus approximately 30 vendor trips daily. Total vehicle trips, including vendor and employee trips, would be approximately 130 per day (Jacobs 2021o, pg. 3.3-19).

Facility Upkeep Emissions. Facility upkeep includes emissions caused by landscaping, consumer product use, and periodic use of architectural coatings. Energy consumed by the buildings would include electrical use and natural gas for two water heaters. These criteria pollutant emissions for upkeep and water heating are estimated by the applicant using CalEEMod (Jacobs 2021o, pg. 3.3-19; Jacobs 2021s, Appendix 3.3B, Table 16 [TN 239413]).

This analysis does not quantify any criteria pollutant emissions associated with electricity consumption. CalEEMod does not estimate criteria pollutant emissions associated with electricity consumption, although the software can be used to calculate GHG based on a typical mix of electricity supplies. Upon an intervenor motion on this topic, the committee appointed to the proceeding for this project stated that "providing criteria air pollutant emission factors for the various generation sources that may be used to provide energy to the Facility will require Applicant to undertake burdensome new analysis that would result in information of questionable value" (Committee Ruling, September 16, 2020; TN 234779).

Table 4.3-6 provides the annual and average daily criteria pollutant emission estimates for project operation, including readiness testing and maintenance, using the emission source assumptions noted above. The average daily emissions are based on annual emissions averaged over 365 days per year.

TABLE 4.3-6 CRITERIA POLLUTANT EMISSIONS FROM PROJECT OPERATION, INCLUDING READINESS TESTING AND MAINTENANCE

Source Type	**ROG/ VOC**	**CO**	**NOx**	**SO_2**	**PM10**	**PM2.5**
	Annual Emissions (tpy)					
Natural Gas-Fired Generators [a]	2.62	42.84	2.22	0.22	0.23	0.23
Diesel-fired Administrative Generators [a]	0.05	0.08	0.47	0.00	0.01	0.01
Diesel Storage Tank Refueling	0.00	---	---	---	---	---
Mobile Sources	0.03	0.85	0.61	0.004	0.07	0.03
Facility Upkeep	2.38	0.43	0.51	0.003	0.04	0.04
Total Project Operation [b]	5.1	44.2	3.8	0.2	0.4	0.3
BAAQMD Annual Significance Thresholds	10	--	10	--	15	10
Exceed BAAQMD Threshold? (Y/N)	No	N/A	No	N/A	No	No

TABLE 4.3-6 CRITERIA POLLUTANT EMISSIONS FROM PROJECT OPERATION, INCLUDING READINESS TESTING AND MAINTENANCE

Source Type	ROG/ VOC	CO	NOx	SO_2	PM10	PM2.5
	Average Daily Emissions (lbs/day) [c]					
Natural Gas-Fired Generators [a]	14.58	238.01	12.34	1.22	1.28	1.28
Diesel-fired Administrative Generators [a]	0.30	0.45	2.61	0.00	0.04	0.04
Diesel Storage Tank Refueling	0.00	---	---	---	---	---
Mobile Sources	0.17	4.66	3.31	0.02	0.38	0.18
Facility Upkeep	13.03	2.38	2.81	0.02	0.21	0.21
Total Project Operation [b]	28.1	245.5	21.1	1.3	1.9	1.7
BAAQMD Average Daily Significance Thresholds	54	--	54	--	82	54
Exceed BAAQMD Threshold? (Y/N)	No	N/A	No	N/A	No	No

Notes:
a The annual emissions assume all 224 natural gas-fired generators would operate for 509 hours per year at 100 percent load for maintenance and testing and for load shedding, demand response and behind the meter RA capabilities; the two diesel-fired administrative generators would operate up to 42 hours per year per engine for readiness testing and maintenance.
b Total project operation emissions quantified here do not include emergency operations that could occur as a result of unplanned circumstances.
c The average daily emissions are based on the annual emissions averaged over 365 days per year.
Source: Jacobs 2021o, Table 3.3-7; Jacobs 2021s, Appendix 3.3B, Table 2 (TN 239413).

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 4.3-4**, the proposed project would not result in a cumulatively significant impact (BAAQMD 2017b).

Table 4.3-6 shows that the project operation would not be expected to result in a cumulatively considerable net increase of criteria pollutants during the lifetime of the project.

Because the facility would emit less than 10 tpy of NOx or POC, the applicant would not be required to provide any offsets. The NOx emissions of the proposed stationary sources would be fully offset by the BAAQMD through the Small Facility Banking Account during the permitting process. Proposed emissions from miscellaneous, smaller sources that would be exempt from the air quality permitting requirements would also be exempt from the BAAQMD offsetting requirements.

As shown in **Table 4.3-6** emissions of criteria air pollutants during project operation, including readiness testing and maintenance, would not exceed any of the BAAQMD emissions significance thresholds. Therefore, the project operations would not result in a cumulatively considerable net increase of any criteria pollutant, and this impact would be less than significant.

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

This section quantifies the ambient air quality pollutant concentrations caused by the project and determines whether sensitive receptors could be exposed to substantial pollutant concentrations.

This section is comprised of separate discussions addressing impacts from criteria pollutants in staff's Air Quality Impact Analysis (AQIA) and impacts from toxic air contaminants (TACs) in staff's Health Risk Assessment (HRA). Staff's AQIA discusses criteria pollutant impacts from construction and operation, including readiness testing and maintenance. Staff's HRA discusses the results of TACs for both construction and operation (including readiness testing and maintenance), and cumulative sources. Finally, the section discusses issues associated with potential emergency operations.

Air Quality Impact Analysis (AQIA) for Criteria Pollutants

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. In this case the existing background levels of PM10 and PM2.5 already exceed relevant air quality standards.

Construction

Less Than Significant with Mitigation Incorporated. Construction emissions of criteria air pollutants are shown in **Table 4.3-5** under criterion "b" of the environmental checklist. Emissions during project construction would not exceed significance thresholds for construction activities, as established in the BAAQMD CEQA Guidelines. With the staff recommendation to implement **AQ-1** to control fugitive dust, construction emissions would not exceed the BAAQMD significance thresholds. Although project construction emissions would fall below the emissions thresholds, this section of the staff analysis explores the ambient air quality impacts of criteria pollutant emissions during construction to evaluate whether substantial pollutant concentrations could occur.

In response to staff data requests, the applicant provided the modeled ambient air quality concentrations caused by the construction emissions (Jacobs 2021aa; Response to Data Request 64, Tables DR64-5 and DR64-6). Staff reviewed the applicant's dispersion modeling files and agreed with the inputs used by the applicant and the outputs from the model for the construction AQIA.

The applicant's Air Quality Impact Analysis (AQIA) uses the U.S. EPA preferred and recommended dispersion model, American Meteorological Society/Environmental

Protection Agency Regulatory Model (AERMOD [Version 21112]) to estimate ambient air quality impacts.

Meteorological Data. The applicant used the 5-year (2013-2017) record of hourly meteorological data provided by the BAAQMD. The meteorological data were collected at the Moffett Federal Airfield surface station, which is located approximately 6.5 miles west of the 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), AERMOD's meteorological data preprocessor module, for direct use in AERMOD.

Modeling Assumptions. The applicant grouped the emission sources for the construction site into two categories: exhaust emissions and dust emissions. The applicant modeled the combustion equipment exhaust emissions as 437 point sources with horizontal releases placed at regular intervals around the site. The applicant modeled the construction fugitive dust emissions a single area source covering the site with an effective release height at ground level (Jacobs 2021aa). The applicant's dispersion modeling assumes construction activities would be limited to 12 hours per day (7 AM to 7 PM) consistent with the expected period of onsite construction activities generating both exhaust emissions and fugitive dust.

Table 4.3-7 shows the impacts of the project during construction period. The project impact column shows the worst-case impacts of the project from modeling. The background column shows the highest concentrations, or the 3-year averages of the highest concentrations for 24-hour PM2.5 and federal 1-hour NO_2 and SO_2 standards according to the forms of these standards, from the prior three years (2018-2020) from the Jackson Street station. The background PM10 and PM2.5 concentrations are shown in **bold** because they already exceeded the corresponding limiting standards. The total impact column shows the sum of the existing background condition plus the maximum impact predicted by the modeling analysis for construction. The limiting standard column combines CAAQS and NAAQS, whichever is more stringent.

TABLE 4.3-7 MAXIMUM AMBIENT AIR QUALITY IMPACTS DURING CONSTRUCTION ($\mu g/m^3$)

Pollutant	Averaging Time	Project Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24-hour	14.34	**137.1**	**151**	50	**303%**
	Annual	1.85	**24.8**	**27**	20	**133%**
PM2.5	24-hour	1.67	**73.4**	**75**	35	**214%**
	Annual	0.18	**12.9**	**13**	12	**109%**
CO	1-hour	28	2,857	2,885	23,000	13%
	8-hour	13	2,400	2,413	10,000	24%
NO_2 [a]	State 1-hour	22.8	162	185	339	55%
	Federal 1-hour	22.0	98	120	188	64%
	Annual	1.0	22.6	24	57	41%
SO_2	State 1-hour	0.07	37.9	38	655	6%
	Federal 1-hour	0.07	7.8	8	196	4%
	24-hour	0.02	3.9	4	105	4%

Notes: Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.
a 1-hour and annual NO_2 impacts are evaluated assuming full conversion of NOx to NO_2. The state 1-hour NO_2 total impacts include the maximum modeled project impact combined with maximum NO_2 background value. For the federal 1-hour NO_2 standard, staff conservatively combined the maximum modeled project impact with the 3-year average of 98th percentile daily maximum 1-hour background NO_2 to get the total NO_2 impact.
Source: (Jacobs 2021aa Response to Data Request 64, Tables DR64-5 and DR64-6).

Table 4.3-7 shows that the impacts from project construction would be below the limiting standards for CO, NO_2, and SO_2. **Table 4.3-7** 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 24-hour PM10 concentration of 14.34 μg/m^3 from project construction would exceed the US EPA PM10 SILs of 5 μg/m^3 for 24-hour impacts, and the maximum modeled annual PM10 concentration of 1.85 μg/m^3 would exceed the PM10 SILs of 1 μg/m^3 for annual impacts. However, the results provided in **Table 4.3-7** are maximum impacts predicted to occur primarily due to fugitive dust at the project fence line. The impacts would decrease rapidly with distance from the fence line, and for any location more than 1,000 feet south of the fence line, the 24-hour PM10 concentration would be below the US EPA PM10 SILs of 5 μg/m^3. The nearest residential receptors are over 1,000 feet away from the fence line and the maximum annual PM10 impacts at these receptors would be much lower than the maximum shown. In addition, construction is considered short-term and the impacts during construction would be reduced with the implementation of **AQ-1**. With mitigation, the PM10 impacts of the project during construction would be less than significant.

Similarly, **Table 4.3-7** also shows that the existing 24-hour and annual PM2.5 background concentrations are already above the limiting standards. The project would therefore contribute to existing exceedances of the 24-hour and annual PM2.5 standards. The maximum 24-hour PM2.5 impacts of 1.67 μg/m^3 would exceed the 24-hour PM2.5 SILs of 1.2 μg/m^3. However, the maximum modeled 24-hour PM2.5 impact would occur at the project fence line and would decrease rapidly with distance from the fence line. For all locations outside the project fence line, the annual average PM2.5 impact during construction of 0.18 μg/m^3 would be less than the BAAQMD significance threshold of 0.3 μg/m^3 and less than the annual PM2.5 SILs for annual impacts of 0.2 μg/m^3 (US EPA 2018a).

No sensitive receptors are within 1,000 feet of the project fence line, and the maximum annual PM2.5 impacts at all sensitive receptors would be much lower than the BAAQMD significance threshold of 0.3 μg/m^3 and US EPA annual PM2.5 SILs level of 0.2 μg/m^3. The PM2.5 impacts of the project during construction would be less than significant.

Project construction would not expose sensitive receptors to substantial criteria pollutant concentrations, and this impact would be less than significant.

Operation

Less Than Significant Impact. The AQIA for project operation includes emissions from the natural gas-fired generators that may be used for load shedding and demand response and the two diesel generators; each of these sources require periodic readiness testing and maintenance. Because modeling scenarios must capture use of the natural gas-fired generators load shedding and demand response, all modeling scenarios allow for simultaneous use of the natural gas-fired generators with the two diesel-fired administrative generators.

The applicant's AQIA compares worst-case ground-level impacts resulting from the project operation with established state and federal ambient air quality standards. Staff reviewed the applicant's dispersion modeling files and agrees with the inputs used by the applicant and the outputs from the model for the AQIA.

Modeling Assumptions. Stack parameters (e.g., stack height, exit temperature, stack diameter, and stack exit velocity) were based on the parameters given by the engine manufacturer and the applicant. The engines could be tested or used at any load condition. The applicant's analysis modeled all engines at three different load conditions representing 100, 75, and 50 percent load settings to determine the worst-case concentrations (Jacobs 2021o, pg. 3.3-24).

Refined Modeling Analyses. The modeling considers use of the natural gas-fired generators for load shedding and demand response under various load scenarios. The two diesel-fired administrative generators were modeled as undergoing readiness testing or maintenance operation at the same time as operation of the natural gas-fired generators (Jacobs 2021o, pg. 3.3-23).

The AQIA for project operation includes generator operating assumptions that vary depending on the averaging period of the applicable CAAQS or NAAQS. Refined modeling for all 1-hour averaging periods includes all generators operating at full load. This captures the worst-case 1-hour scenario of simultaneous use of the natural gas-fired generators with the two diesel-fired administrative generators.

Modeling for comparison to the short-term NAAQS follows the applicable multi-year statistical forms (1-hour NO_2 and SO_2 and 24-hour PM2.5). For annual NO_2 NAAQS compliance, because the two diesel-fired administrative generators can be classified as intermittent (Jacobs 2021o, pg. 3.3-23), the applicant used annual average emission rate in the 1-hour NO_2 and SO_2 NAAQS modeling analyses per US EPA guidance due to the statistical nature of these standards (U.S. EPA 2011). However, for the 1-hour NO_2 and SO_2 CAAQS impacts analyses, the applicant modeled maximum 1-hour NO_2 and SO_2 emission rates and reported concentrations in a manner consistent with the forms of the standards.

Modeling for comparison with the 24-hour PM10 and PM2.5 standards assumes that all natural gas generators could operate at the maximum 1-hour rate for up to 24 hours per day and the diesel-fired generators could operate up to 4 hours during any 24 hour period (Jacobs 2021o, pg. 3.3-23).

For the 1-hour NO_2 modeling analysis, the applicant assumed all generators operating at full load. Modeled concentrations reflect an ambient equilibrium between NO and NO_2 using the Ambient Ratio Method 2 (ARM2), which is a Tier 2 approach for NO_2 analysis as defined in U.S. EPA's *Guideline on Air Quality Models* (US EPA 2017). The applicant selected a minimum ambient NO_2/NOx ratio equivalent to the anticipated in-stack NO_2/NOx ratio of 0.1 (10 percent); this was based on a review of the US EPA's Nitrogen Dioxide/Nitrogen Oxides In-Stack Ratio (ISR) database (Jacobs 2021o, p. 3.3-23) for natural gas and diesel-fired engines. In this case, the modeled NO_2 results from ARM2 are added to the maximum 1-hour background NO_2 value from the Jackson Street monitoring site (2018-2020) to arrive at the total NO_2 impact for the 1-hour NO_2 CAAQS analysis. For the NAAQS analysis, the modeled NO_2 results from ARM2 are added to the three-year average of the second-highest hourly background NO_2 value, consistent with U.S. EPA guidance for the NO_2 NAAQS (US EPA 2011).

Table 4.3-8 shows the maximum impacts from project operation, including readiness testing and maintenance. The project impact column shows the worst-case impacts of the project from modeling. The background column shows the highest (or 3-year averages for the 24-hour PM2.5 and federal 1-hour SO_2 standards) of the background concentrations from the last three years of representative data (2018-2020) from the Jackson Street station. The background PM10 and PM2.5 concentrations are shown in **bold** because they already exceeded the corresponding limiting standards. Except for the 1-hour NO_2 total impacts, the total impact column shows the sum of the existing background condition plus the maximum impact predicted by the modeling analysis for readiness testing and maintenance. The limiting standard column combines CAAQS and NAAQS, whichever is more stringent.

TABLE 4.3-8 MAXIMUM AMBIENT AIR QUALITY IMPACTS DURING OPERATION (μg/m³)

Pollutant	Averaging Time	Project Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24-hour	3.13	**137.1**	**140**	50	**280%**
	Annual	0.06	**24.8**	**25**	20	**124%**
PM2.5 [a]	24-hour	3.13	**73.4**	**77**	35	**219%**
	Annual	0.06	**12.9**	**13**	12	**108%**
CO	1-hour	1,745	2,857	4,602	23,000	20%
	8-hour	1,055	2,400	3,455	10,000	35%
NO_2 [b,c]	State 1-hour	142.9	162	305	339	90%
	Federal 1-hour	76.7	98	175	188	93%
	Annual	0.6	22.6	23	57	41%
SO_2 [c]	State 1-hour	8.9	37.9	47	655	7%
	Federal 1-hour	8.6	7.8	16	196	8%
	24-hour	3.21	3.9	7	105	7%

Notes: Concentrations in **bold** type are those that exceed the limiting ambient air quality standard.
a To compute the total impacts for the 24-hour PM2.5 NAAQS, staff conservatively combined the maximum modeled 24-hour PM2.5 impacts to the 3-year average of 98th percentile PM2.5 background.
b The NO_2 impacts are evaluated using the US EPA Ambient Ratio Method 2 (ARM2) option in AERMOD with a minimum NO_2/NOx ratio of 0.10, equivalent to the anticipated source's in-stack ratio.
c Impacts for the 1-hour statistical-based NO_2 and SO_2 NAAQS are based on the annual average emissions of the two diesel-fired administrative generators, per US EPA guidance documents for intermittent sources (US EPA 2011). Impacts for the 1-hour NO_2 and SO_2 CAAQS are based on the maximum 1-hour emission rates since these CAAQS are "values that are not to be exceeded."
Source: Jacobs 2021o, Table 3.3-18 and Table 3.3-19 (TN 239409).

Table 4.3-8 shows that the project's stationary sources would not cause exceedances of the CO, NO_2, or SO_2 standards. **Table 4.3-8** also shows that the existing PM10 and PM2.5 background concentrations are already above the limiting standards. The project would therefore contribute to existing exceedances of the PM10 and PM2.5 standards.

The modeled PM10 concentrations from project operation in **Table 4.3-8** are well below the U.S. EPA PM10 SILs of 5 μg/m³ for 24-hour impacts and 1 μg/m³ for annual impacts. The maximum modeled PM2.5 concentrations from project operation would exceed the U.S. EPA PM2.5 SILs of 1.2 μg/m³ for 24-hour impacts at the project fence line. The 24-hour PM2.5 impacts would decrease rapidly with distance from the fence line, and for any location more than 1,000 feet south of the fence line, the modeled PM2.5 concentrations would be below the U.S. EPA PM2.5 SILs. **Table 4.3-8** also shows that the annual PM2.5 project impacts of 0.06 μg/m³ would not exceed the U.S. EPA PM2.5 of 0.2 μg/m³ for annual impacts (US EPA 2018a) or the project-level BAAQMD threshold for annual-average PM2.5 of 0.3 μg/m³, for risk and hazards.

Table 4.3-8 shows that the project's natural gas-fired generators, with the two diesel generators, would not expose sensitive receptors to substantial pollutant concentrations, and this impact would be less than significant.

Localized CO Concentrations. 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 (BAAQMD 2017b).

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 4.3-7 and **Table 4.3-8** show the CO concentrations resulting from project construction and operation, and modeling results confirm that impacts would be well below the limiting standards and BAAQMD significance thresholds of 20.0 ppm (23,000 $\mu g/m^3$) for 1-hour average concentrations and 9.0 ppm (10,000 $\mu g/m^3$) for 8-hour average concentrations.

Localized CO impacts during construction and operation, including readiness testing and maintenance, would not expose sensitive receptors to substantial pollutant concentrations, and this impact would be less than significant.

Health Risk Assessment (HRA) for Toxic Air Contaminants

The Health Risk Assessment (HRA) for the project was conducted separately for (1) the period of project's excavation and construction, and (2) the period of operation, including readiness testing and maintenance. A separate discussion summarizes the risk and hazards for the project in a cumulative HRA that includes the project's impact with the impacts of existing sources in the area.

The HRA estimated risks of cancer, non-cancer chronic exposure, and non-cancer acute exposure for residential, worker, and sensitive receptors, including the Maximally Exposed Individual Resident (MEIR), Maximally Exposed Individual Worker (MEIW), and Maximally Exposed Sensitive Receptor (MESR). As required by the 2015 OEHHA Guidance, sensitive receptor (including residential) cancer risks were estimated assuming exposure beginning in the third trimester of pregnancy; worker cancer risk was estimated assuming an 8-hour-per-day, 250 day-per-year exposure, beginning at the age of 16 (OEHHA 2015).

Construction

Less Than Significant Impact. As mentioned above, construction activities would occur during a 17-month period (Jacobs 2021o, pg. 3.3-21). Excavation and construction emissions from SJDC would include exhaust from fuel combustion and fugitive dust. They would result from use of construction equipment, soil disturbance, material movement, paving activities, and on- and offsite vehicle trips, such as material haul trucks, worker commutes, and delivery vehicles (Jacobs 2021o, pg. 3.3-13).

DPM emissions result from diesel fuel combustion in onsite and offsite construction equipment and off-road vehicles. Some details as follows (Jacobs 2021o, pg. 3.3-28):

- DPM was assumed to be best represented by PM10 emitted as a result of fuel combustion. Therefore, fugitive dust emissions were excluded from the HRA, as they are not expected to include DPM.
- Offsite, on-road contributions of PM10 resulting from material haul truck trips, worker commute trips, and vendor delivery trips were excluded, as they are not expected to significantly contribute to localized impacts of DPM.
- Onsite and offsite contributions of PM10 resulting from off-road, gasoline-fueled light-duty trucks were conservatively included, although they are not expected to emit DPM.
- PM10 emissions resulting from diesel-fueled construction equipment exhaust were estimated assuming a mix of equipment meeting Tier 3 and Tier 4 PM10 emission standards.

The only TAC evaluated in the HRA for construction activities was DPM, which is a surrogate for diesel exhaust. DPM was assumed equal to estimated onsite and offsite exhaust PM10 emissions (Jacobs 2021o, pg. 3.3-13). Since DPM has no acute REL, acute HI values were not calculated in applicant's HRA.

For modeling, these emissions were averaged over the construction period (approximately 17 months) and spatially distributed within the demolition, excavation, and construction area. Although some of the demolition, excavation, and construction activities would occur offsite in proximity to the project, all emissions were modeled as being released from the project site due to the temporary nature of the offsite emissions (Jacobs 2021o, pg. 3.3-29).

The atmospheric dispersion of emitted DPM was modeled using AERMOD (Version 21112). The modeled output (maximum ground-level concentrations), along with equations from the Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015), were used to estimate the cancer and chronic (non-cancer) health risks for residential and worker exposure to DPM emissions. Acute (non-cancer) health risks were not estimated, because there is no acute inhalation REL for DPM, thus indicating that DPM is not known to result in acute health hazards (OEHHA 2015; OEHHA & CARB 2020) (Jacobs 2021o, pg. 3.3-29).

The construction HRA assumed a 2-year rolling exposure duration, intended to conservatively mirror the 17-month construction duration, of which the first month includes demolition/excavation activities (Jacobs 2021o, pg. 3.3-28). The screening HRA then estimated the 2-year rolling cancer risks at the MEIR, MEIW, and MESR. Exposure was assumed to start during the third trimester for residents and sensitive receptors and at age 16 for workers. Chronic risks were also estimated for the MEIR, MEIW, and MESR, based on the emission rates and ground-level concentrations described above. To calculate chronic risk, as characterized by an HI, the maximum annual ground-level DPM concentration determined through dispersion modeling with AERMOD was divided by the DPM REL of 5 µg/m^3 (OEHHA & CARB 2020) (Jacobs 2021o, pg. 3.3-30).

Staff reviewed the applicant's modeling files and agrees with the inputs used by the applicant and the outputs from the model for carcinogenic and chronic health risks. The results of the construction HRA are presented in **Table 4.3-9**, which shows 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 Sensitive Receptor (MESR) would be less than the BAAQMD's significance thresholds. Therefore, staff concluded that the health risks of the project construction would be a less than significant impact.

TABLE 4.3-9 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]	4.13	0.0028	NA
MEIW[2]	0.37	0.0149	NA
MESR[3]	0.48	0.0003	NA
BAAQMD Threshold	10	1	1

Notes:
1 Maximally Exposed Individual Resident (MEIR). The MEIR for cancer risk impact and chronic non-cancer HI is at the residence (on Murphy Ranch Road) located about 0.3 miles southeast of the project boundary.
2 Maximally Exposed Individual Worker (MEIW). The MEIW for cancer risk impact and chronic non-cancer HI is at the same location of PMI, at the project boundary.
3 Maximally Exposed Sensitive Receptor (MESR). The MESR for cancer risk impact and chronic non-cancer HI is at the Big Brothers Big Sisters of the Bay Area, which is about 0.7 miles east of the project boundary.
Source: Jacobs 2021t, Appendix 3.3D, Table 3 and Table 4, and CEC 2021q.

It should be noted that the risk values shown in **Table 4.3-9** are the highest of those modeled for each type of sensitive receptors. The risk values at other locations for each type of sensitive receptors would be lower than those shown in **Table 4.3-9**. Health risks at nearby worker/residential/sensitive receptors would all be below the significance thresholds. The health risks from project construction would be less than significant, and no mitigation would be necessary.

Operation

Less Than Significant Impact. Project operation includes TAC emissions from the natural gas-fired generators and diesel-fired administrative generators; each of these sources require periodic readiness testing and maintenance. Offsite vehicle trips for worker commutes and material deliveries were not included in the HRA. TACs to be evaluated were speciated TOG in natural gas and diesel exhaust, DPM, and ammonia, where applicable. DPM emissions resulting from diesel stationary combustion were assumed equal to PM10 emissions.

BAAQMD's permitting process and the California Air Resources Board's Airborne Toxic Control Measures (ATCM) would limit each diesel engine to no more than 50 hours annually for reliability purposes (i.e., testing and maintenance). The applicant for this project commits to no more than 42 hours per year for the two diesel-fired administrative generators and up to 509 hours per year for each of the 224 natural gas-fired generators (Jacobs 2021o, pg. 3.3-23). Short-term (1-hour) TAC emissions rates are based on all generators operating concurrently (Jacobs 2021s, Appendix 3.3-B, Table 9 and Table 10).

TAC emissions from the natural gas generators were estimated by conservatively assuming the same number of hours per year (Jacobs 2021o, pg. 3.8-15). All 224 natural gas-fired generators were assumed to operate for 509 hours per year at 100 percent load for maintenance and testing and load shedding, demand response and behind the meter RA capabilities. The two administrative generators were assumed to operate a maximum of 42 hours per year for maintenance and testing purposes, which is less than the 50 hour per year limit for maintenance and testing allowed in the Airborne Toxic Control Measure for Stationary Compression Ignition Engines (Jacobs 2021o, pg. 3.3-17).

TAC emissions from the natural gas-fired generators were calculated by assuming the 3-way catalyst system controls TAC emissions with the same 94 percent control efficiency as VOC. Cancer and non-cancer chronic risks were estimated based on modeling of annual emissions; non-cancer acute risks were estimated based on modeling of maximum hourly emissions. All TACs listed above as byproducts of natural gas combustion were included in HARP2 (Jacobs 2021o, pg. 3.3-30).

DPM emissions resulting from diesel stationary combustion were assumed equal to PM10 emissions, with speciated TAC emissions estimated using emission factors from AP-42 (US EPA 1996) Ammonia would also be emitted during operation of the diesel-fired administrative generators, but only as a result of urea usage in the SCR. Although the SCR would not likely be fully functional during routine maintenance and testing events, ammonia emissions were conservatively included in the TAC emission estimates for routine operation. These emissions were estimated based on an assumed ammonia slip concentration of 5 ppm (Jacobs 2021o, pg. 3.3-16). Ammonia emissions have been conservatively included in the health risk modeling, even though this TAC is only expected to be emitted during emergency operations when the SCR System is functional (Jacobs 2021o, Table 3.3-13). Cancer and non-cancer chronic risks were estimated based on modeling of annual ammonia and DPM emissions; non-cancer acute risks were estimated based on modeling of hourly emissions of ammonia, acetaldehyde, acrolein, benzene, DPM, formaldehyde, naphthalene, propylene, toluene, total PAHs, and xylenes (Jacobs 2021o, pg. 3.3-30 and pg. 3.3-31).

The operational HRA modeling was conducted using CARB's HARP2 Air Dispersion Modeling and Risk Assessment Tool (ADMRT). To facilitate calculation of long-term TAC ground-level concentrations at each modeled receptor, the AERMOD air dispersion modeling output plot files were imported into HARP 2 (Jacobs 2021o, pg. 3.3-32).

Applicant's HRA included potential health impacts from TAC exposure on receptors through the following pathways: inhalation, dermal absorption, soil ingestion, mother's milk and homegrown produce. The following pathways were not included in the assessment: surface drinking water, still-water fishing and subsistence farming (Jacobs 2021o, pg. 3.3-27). The operational HRA assumed a conservative 30-year continuous exposure duration for residential and sensitive receptors and a 25-year exposure duration for workers (OEHHA 2015) (Jacobs 2021o, pg. 3.3-28).

Staff reviewed the applicant's modeling files and agrees with the inputs used by the applicant and the outputs from the model for carcinogenic and chronic health risks. The results of applicant's HRA for readiness testing and maintenance of the standby generators are presented in **Table 4.3-10**. **Table 4.3-10** shows that the cancer risks, chronic HIs, and acute HIs at the MEIR, MEIW, and MESR during operation would be less than the BAAQMD's significance thresholds of 10 in 1 million and 1, respectively. It should be noted that the risk values shown in **Table 4.3-10** are the highest of those modeled for each type of sensitive receptors. The risk values at other locations for each type of sensitive receptors would be lower than those shown in **Table 4.3-10**. Therefore, staff concluded that the health risks of the project operation would be a less than significant impact.

TABLE 4.3-10 OPERATION -- 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)
PMI	3.38	0.00101	0.00498
MEIR[1]	0.30	0.000115	0.00498
MEIW[2]	0.27	0.00101	0.00498
MEISR[3]	0.11	0.0000417	0.00065
BAAQMD Threshold	10	1	1

Notes:
1 Maximally Exposed Individual Resident (MEIR). The MEIR for cancer risk impact and chronic HI is at the residence (on Murphy Ranch Road) located about 0.3 miles southeast of the project boundary. The MEIR for acute HI is at the project boundary.
2 Maximally Exposed Individual Worker (MEIW). The MEIW for cancer risk impact and chronic non-cancer HI is at the same location of PMI, at the project boundary. The MEIW for acute HI is also at the project boundary.
3 Maximally Exposed Individual Sensitive Receptor (MESR). The MESR for cancer risk impact and chronic non-cancer HI is at the Big Brothers Big Sisters of the Bay Area, which is about 0.7 miles east of the project boundary. The MESR for acute HI is at the VITAS Innovative Hospice Care of San Francisco Bay, which is about 0.5-mile northeast of the project boundary.
Source: Jacobs 2021t, Appendix 3.3E, Table 2.

Cumulative

Less Than Significant Impact. This discussion addresses the impacts from cumulative sources in comparison to the BAAQMD thresholds of significance for risk and hazards from cumulative sources (BAAQMD, 2017b). This cumulative HRA is an assessment of the project's impact summed with the impacts of existing sources within 1,000 feet of the project. The results of this cumulative HRA are compared to the BAAQMD CEQA cumulative thresholds of: no more than 100 cancer cases per million; a chronic Hazard Index of no more than 10.0; and PM2.5 concentrations of no more than 0.8 μg/m^3 annual average PM2.5 concentrations.

Per staff's request in Data Request 67 and 68, the applicant provided a cumulative HRA and compared results with the BAAQMD threshold of significance for cumulative risk and hazards (Jacobs 2021y, pgs. 3 through 5). The applicant used the BAAQMD CEQA Air Quality Guidelines and available on-line tools[5] to determine the appropriate sources for inclusion in the cumulative HRA. Sources identified within 1,000 feet of the proposed Project are the Los Esteros Critical Energy Facility (stationary source) and State Route 237, just west of the Interstate 880 interchange (highway).

The applicant's cumulative HRA shows that the maximum cumulative cancer risk would be 16.13 in a million, below the threshold of 100 in a million; the maximum cumulative HI would be 0.058, below the threshold of 10; and the maximum cumulative PM2.5 concentration would be 0.45 μg/m^3, below the threshold of 0.8 μg/m^3.

Staff also conducted an independent cumulative HRA, which is an assessment of the proposed project's impact summed with the impacts of existing sources within 1,000 feet[6] of the maximally exposed sensitive receptors, including PMI, MEIR, MEIW and MESR. The results of staff's cumulative HRA are compared to the BAAQMD CEQA cumulative thresholds of significance (BAAQMD 2017b) in **Table 4.3-11, Table 4.3-12**, and **Table 4.3-13**. Staff's cumulative HRA includes four major sources of impacts: (1) existing stationary sources; (2) surrounding highways, main streets, and railways (including State Route 237); (3) the Los Esteros Critical Energy Facility; and (4) the proposed project.

1. Existing 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 and Hazards Map.[7] Then the risks were calculated using BAAQMD's Health Risk Calculator[8] 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

5 https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools
6 Per the BAAQMD CEQA Guidelines, the zone of influence for the cumulative threshold is 1,000 feet from the source or receptor.
7 The BAAQMD Permitted Sources Risk and Hazards Map can be accessed here: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
8 The 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

source and how far a stationary source is from the proposed project's maximally exposed sensitive receptor locations to calculate overall cancer risk, hazard index, and PM2.5 concentration from a stationary source.

Staff searched the risk data for existing stationary sources within 1,000 feet of PMI, MEIR, MEIW, and MESR locations. Except for MEIR, there is no stationary source within 1,000 feet of PMI, MEIW, and MESR. Stationary sources were only found around MEIR.

2. Surrounding Highways, Main Streets, and Railways

The cancer risk and PM2.5 concentration from surrounding highways, major streets and railways were determined using BAAQMD raster files that incorporate annual average daily traffic (AADT) per EMFAC 2014 data for fleet mix and includes OEHHA's 2015 Guidance Methods. The raster files encompass highways, major streets and rails with greater than 30,000 AADT.

Staff received the risk numbers for the surrounding highways, main streets, and railways directly from BAAQMD. This data includes State Route 237 and other mobile sources. BAAQMD staff did not provide data of chronic hazard index. Therefore, staff used the data of State Route 237 provided by the applicant instead (Jacobs 2021y, Table DR68-1). The applicant didn't provide data on MEIW though.

3. Los Esteros Critical Energy Facility

The Los Esteros Critical Energy Facility (or the Los Esteros Energy Center) is located at 800 Thomas Foon Chew Way, in San Jose. The Los Esteros Critical Energy Facility is a 320-megawatt natural gas fired combined-cycle power plant. The project was certified on October 11, 2006 and began commercial operation on August 9, 2013. The Los Esteros Critical Energy Facility is located directly west of the proposed Project (Jacobs 2021y, Table DR68-1 and Table DR68-2).

Although the Los Esteros Critical Energy Facility is located outside 1,000 feet of PMI and MEIW, it's right beside the proposed project. Therefore, staff still include Los Esteros Critical Energy Facility in the cumulative HRA by using more conservative risk numbers for PMI and MEIW. As mentioned above, the cumulative cancer risk, non-cancer hazard index, and PM2.5 concentrations of Los Esteros Critical Energy Facility were first retrieved from BAAQMD'S Permitted Sources Risk and Hazards Map. Staff then used the greatest distance (i.e. 918.6 ft) in BAAQMD's Health Risk Calculator to refine screen-level cancer risk and non-cancer health hazard index, and. After refining, the cancer risk and chronic HI of PMI (and MEIW) from the Los Esteros Critical Energy Facility were 2.545 and 0.016, respectively. These numbers are more conservative than the real ones. As for the PM2.5 concentrations of PMI and MEIW, staff used the risk numbers provided by the applicant.

As for MEIR and MESR, staff also used the risk numbers provided by the applicant. The applicant obtained the potential impacts to health risk and annual PM2.5

concentrations resulting from the Los Esteros Critical Energy Facility from the California Energy Commission (CEC) Final Staff Assessment for the Los Esteros Critical Energy Facility II Phase 2 Project (CEC 2005). The risk numbers of cancer risk, chronic HI, and annual PM2.5 concentrations from the Los Esteros Critical Energy Facility were identified in Public Health Table 3 and Air Quality Table 19, respectively, and were summarized in Tables DR68-1 and DR68-2, as appropriate. These health risks and annual PM2.5 concentrations were conservatively assumed to overlap with the location of PMI, MEIR, MEIW and MESR predicted impacts from the proposed Project (Jacobs 2021y, pg 3 and pg 4).

4. The Proposed Project

For the proposed project, please see the result of the applicant's HRA for facility wide operation of SJDC presented in **Table 4.3-10**. Staff also obtained the PM2.5 concentrations for each receptor from applicant's modeling files, which are shown in **Table 4.3-13**.

Table 4.3-11, Table 4.3-12, and **Table 4.3-13** summarize 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 maximally exposed sensitive receptors as well as at the nearest residences. **Table 4.3-11** and **Table 4.3-12** show that the proposed project's health risks (i.e. cumulative cancer risk, hazard index) would not exceed the cumulative health risk thresholds when summed with the health risks of cumulative sources within 1,000 feet of each maximally exposed sensitive receptors or the nearest residences. **Table 4.3-13** shows that the proposed project's health risks (i.e. PM2.5 concentration) would exceed the cumulative health risk thresholds when summed with the health risks of cumulative sources within 1,000 feet of each maximally exposed sensitive receptors or the nearest residences. However, the exceedance is because PM2.5 concentration from the sources of Surrounding Highways, Major Streets, and Railways (i.e. 1.27 $\mu g/m^3$) has already exceeded the threshold of 0.8 $\mu g/m^3$. The exceedance is not because of the project itself. As set forth in **Table 4.3-13**, the modeled total PM2.5 concentration at the receptor of MESR is only 0.0048 $\mu g/m^3$, meaning SJDC only contributes 0.0048 $\mu g/m^3$ to this total number of 1.37 $\mu g/m^3$. Comparing 0.0048 $\mu g/m^3$ to 1.37 $\mu g/m^3$, the project contributes "essentially zero" to the existing exceedances and the contribution is therefore not cumulatively considerable, and the project does not cause cumulatively considerable impacts.

TABLE 4.3-11 CANCER RISKS (PER MILLION) FROM CUMULATIVE SOURCES

Sources of Cumulative Impacts	Cancer Risk (PMI)	Cancer Risk (MEIR)	Cancer Risk (MEIW)	Cancer Risk (MESR)
Existing Stationary Sources [a]	0	10.464	0	0
Surrounding Highways, Major Streets, and Railways [b]	14.23	16.97	14.23	63.3
Los Esteros Critical Energy Facility [c]	0.18	0.18	0.18	0.18
SJDC	3.38	0.3	0.27	0.11
Total - Cumulative Sources	20.155	27.914	17.045	63.59
Significance Threshold	100	100	100	100
Potential Significant Impact?	No	No	No	No

Notes:
a Staff conducted a thorough search on BAAQMD's Permitted Stationary Sources Risk Hazards for the stationary sources within 1,000 ft of PMI, MEIR, MEIW, and MESR. Stationary sources were only found around MEIR.
b Staff used the data provided by BAAQMD.
c As for PMI and MEIW, staff used the refining data obtained from BAAQMD. As for MEIR and MESR, staff used the risk numbers provided by the applicant.
Sources: Energy Commission staff analysis of data from BAAQMD, and Jacobs 2021y, Table DR68-1.

TABLE 4.3-12 CHRONIC HAZARD INDICES FROM CUMULATIVE SOURCES

Sources of Cumulative Impacts	Chronic Hazard Index (PMI)	Chronic Hazard Index (MEIR)	Chronic Hazard Index (MEIW)	Chronic Hazard Index (MESR)
Existing Stationary Sources [a]	0	0.02	0	0
Surrounding Highways, Major Streets, and Railways (State Route 237) [b]	0.05	0.0586	0.05	No Data Available [b]
Los Esteros Critical Energy Facility [c]	0.016	0.007	0.0016	0.007
SJDC	0.00101	0.0000115	0.00101	0.0000417
Total - Cumulative Sources	0.02201	0.0856	0.06701	0.007042
Significance Threshold	10	10	10	10
Potential Significant Impact?	No	No	No	No

Notes:
a Staff conducted a thorough search on BAAQMD's Permitted Stationary Sources Risk Hazards for the stationary sources within 1,000 ft of PMI, MEIR, MEIW, and MESR. Stationary sources were only found around MEIR.
b BAAQMD staff did not provide data of HI for the sources of Surrounding Highways, Major Streets, and Railways. Staff used the data of State Route 237 provided by the applicant instead (Jacobs 2021y, Table DR68-1). But the applicant didn't provide the information on MEIR.
c As for PMI and MEIW, staff used the refining data obtained from BAAQMD. As for MEIR, staff used the risk numbers provided by the applicant.
Sources: Energy Commission staff analysis of data from BAAQMD, and Jacobs 2021y, Table DR68-1.

TABLE 4.3-13 ANNUAL PARTICULATE MATTER (PM2.5) CONCENTRATIONS (μg/m³) FROM CUMULATIVE SOURCES

Sources of Cumulative Impacts	Annual DPM/PM2.5 Concentration			
	(PMI)	(MEIR)	(MEIW)	(MESR)
Existing Stationary Sources [a]	0	0.042	0	0
Surrounding Highways, Major Streets, and Railways [b]	0.28	0.34	0.28	**1.27**
Los Esteros Critical Energy Facility [c]	0.1	0.1	0.1	0.1
SJDC [d]	0.0387	0.0133	0.0387	0.0048
Total - Cumulative Sources	0.42	0.5	0.42	**1.37**
Significance Threshold	0.8	0.8	0.8	0.8
Potential Significant Impact?	No	No	No	Yes

Notes:
a Staff conducted a thorough search on BAAQMD's Permitted Stationary Sources Risk Hazards for the stationary sources within 1,000 ft of PMI, MEIR, MEIW, and MESR. Stationary sources were only found around MEIR.
b Staff used the data provided by BAAQMD.
c Staff used the data provided by the applicant.
d Staff analysis of applicant's modeling files.
Sources: Energy Commission staff analysis of data from BAAQMD, and Jacobs 2021y, Table DR68-2.

Evaluating Emergency Operations

This section addresses the potential for emergency situations that could trigger unplanned operation of the project's natural gas-fired generators and diesel-fired administrative generators. Emergency use of the generators could occur in the event of a power outage or other disruption, upset, or instability that triggers a need for emergency backup power at the data center.

The air quality impacts of standby 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), and, most importantly, would not provide meaningful information by which to determine project impacts.

Emissions that occur during emergency use of the generators would not occur on a regular or predictable basis (see **Appendix B** for more information). During the permitting process, the BAAQMD policy requires facilities to presume that each of their backup power generators will experience 100 hours per year of emergency operation when calculating their PTE for determining the applicability of certain permitting regulations (BAAQMD 2019).

Although normally excluded from ambient air quality impact analysis during permit review, scoping comments from BAAQMD requested that this air quality analysis include various scenarios of backup power generation operations beyond routine testing and maintenance (BAAQMD 2021a). The scoping comments from BAAQMD provided a review of data centers that initiated operation of diesel engines for "non-testing/non-maintenance" purposes, for the purpose of informing staff's consideration of scenarios of backup power generation operations beyond routine testing and maintenance (BAAQMD 2021a).

Staff reviewed the BAAQMD comments regarding use of diesel engines for "non-testing/non-maintenance" purposes and confirmed that these types of events are infrequent, irregular, and unlikely and the resulting emissions are not easily predictable or quantifiable. The BAAQMD showed that extended durations of standby generator engines use occurred for "non-testing/non-maintenance" purposes, mostly due to extreme events within the 13-month record of the data. The 13-month period of BAAQMD's review (September 1, 2019 to September 30, 2020) included the implementation of PG&E's Public Safety Power Shutoff (PSPS), severe wildfires, several California Independent System Operator (CAISO)-declared emergencies, and winter storms. Staff's analysis of the BAAQMD's information found that the average runtime for each diesel backup generator engine per event in BAAQMD's review was approximately 5.0 hours.

For information on impacts during emergency event scenarios that require use of the SJDC project generators for a few hours or less, the resulting concentrations would not be likely to exceed those presented in this analysis for ambient air quality impacts (**Table 4.3-8**) and health risks (**Table 4.3-10**). Scenarios of SJDC project operation in the AQIA and HRA of this analysis are based on all 224 natural gas-fired generators operating up to 509 hours per year and the two diesel-fired administrative generators operating up to 42 hours per year per engine. The AQIA and HRA also include short-term (1-hour) scenarios that assume all natural gas and diesel-fired generators could operate concurrently (Jacobs 2021o, pg. 3.3-23). The project operation assumptions also include the possibility that all natural gas generators could operate at the maximum 1-hour rate for up to 24 hours per day and the diesel-fired generators could operate up to 4 hours during any 24 hour period (Jacobs 2021o, pg. 3.3-23).

While emergency operations are typically too speculative to assess due to the infrequent, irregular, and unplanned nature of emergency events, in this case, the project's air quality analysis and health risk assessment considered all the natural gas generators operating together for 509 hours a year. As noted, the applicant proposes up to 509 hours for both generator testing and participation in a utility load shedding program. However, staff expects that testing would require about 9 hours annually, and the maximum number of annual hours of load shedding requested by the utility over the last 12 years was under 30 hours. (Jacobs 2021y). Thus, the applicant's proposal would allow use of the natural gas fired generators for approximately 470 hours of additional annual operations. Staff analyzed this proposal and expects that the proposal is sufficiently conservative to account for the possibility of emergency operations for purpose of the air quality and health risk assessments.

Based on the reliability of the grid as detailed in **Appendix B**, it is highly unlikely that emergency operations, plus use for maintenance and testing, and use in the utility load shedding program, would require more than 509 hours annually. Based on the analyses of air quality impacts and health risks under the applicant's proposal, the project's emergency operation would be unlikely to expose sensitive receptors to substantial concentrations of criteria air pollutants.

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

This section considers impacts may arise from emissions other than criteria air pollutants and TACs, such as emissions that may lead to odors.

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.

The BAAQMD CEQA guidelines recommend a two-step process for determining the significance of potential odor impacts. First, determine whether the project would result in an odor source affecting receptors within the distances indicated in **Table 4.3-11**. Second, if the proposed project would result in an odor source and receptors within the screening level distances indicated in **Table 4.3-11**, a more detailed analysis should be conducted (BAAQMD 2017b).

TABLE 4.3-11 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

TABLE 4.3-11 PROJECT SCREENING TRIGGER LEVELS FOR POTENTIAL ODOR SOURCES

Land Use/Type of Operation	Project Screening Distance
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.

Staff investigated the project area for local conditions or special circumstances. Within approximately one mile of the SJDC site is a regional wastewater treatment facility, with two adjacent sources of odors reported to the BAAQMD in recent years (San Jose-Santa Clara Regional Wastewater Facility, at 700 Los Esteros Road, and Zero Waste Energy Development Company, LLC, at 685 Los Esteros Road). Additionally, within approximately two miles of the SJDC site is the Newby Island landfill and solid waste handling facilities (International Disposal Corp. of CA, at 1601 W. Dixon Landing Road) in the City of Milpitas. The landfill site has a history of confirmed odor complaints (BAAQMD, 2021d).

When compared to existing odor sources near the project site, which include region-serving wastewater and solid waste handling, along with other heavy and light industrial uses, odor impacts from project construction and operation would not represent any notable change compared with the baseline of existing conditions.

The SJDC project is not a type of operation that is classified as a typical odor source by the BAAQMD, as in **Table 4.3-11**. The natural gas-fired and diesel engine generators would not be stationary sources of a type that are typically known to cause significant odor impacts (Jacobs 2021o).

Construction

Less Than Significant Impact. Minor odor sources during construction activities include diesel exhaust from heavy-duty equipment. Odors from construction activities near existing receptors would be temporary in nature and dissipate as a function of distance. Accordingly, construction of the project is not expected to result in substantial emissions that may lead to odor impacts or impacts of emissions other than those of criteria air pollutants and TACs identified elsewhere in this analysis. Therefore, construction of the project would not result in odors or other emissions that could adversely affect a substantial number of people, and construction would have a less than significant impact related to odors.

Operation

Less Than Significant Impact. Operation of the project includes the natural gas-fired generators and the two diesel generators. Natural gas-fired sources are not a notable source of odors. Potential odor sources from project operation along would include the diesel exhaust from two diesel-fired administrative standby generators, trash pick-up and other heavy-duty delivery vehicles, and the occasional use of architectural coatings during routine maintenance.

Once built and operating, the project would have no notable emissions other than those of criteria air pollutants and TACs identified elsewhere in this analysis. Therefore, nuisance impacts would not be likely to occur during operation, including readiness testing and maintenance or emergency operation. During readiness testing and maintenance and during emergency operation, the project would not result in odors or other emissions that could adversely affect a substantial number of people and would have a less than significant impact related to odors. In conclusion, staff finds that the project would not likely create objectionable odors affecting a substantial number of people.

4.3.3 Mitigation Measures

AQ-1: To incorporate the Bay Area Air Quality Management District (BAAQMD) recommendations for Best Management Practices to control fugitive dust, the project owner shall implement a fugitive dust control plan that has been reviewed and approved by the Director or Director’s designee with the City of San Jose Department of Planning, Building, and Code Enforcement prior to the issuance of any grading or building permits, whichever occurs earliest. The project owner shall implement the following measures during construction:

- Minimize fugitive dust generation by watering exposed soils two time per day or as needed.
- Cover truck loads when transporting soil, sand, or other loose materials to or from the site.
- Perform street sweeping to remove all visible mud or dirt track-out onto adjacent public roads at least once per day. The use of dry power sweeping is prohibited.
- Limit onsite vehicle speeds on unpaved surfaces to 15 miles per hour.
- Pave onsite roads and driveways, and sidewalks as soon as possible in the construction schedule.
- Pour foundations for building pads as soon as possible after grading.
- Limit construction equipment idling times to a maximum 5 minutes, or shut equipment down when not in use.
- Maintain and tune construction equipment in accordance with manufacturer‘s specifications.
- Employ a certified visible emission evaluator to verify that construction equipment is functioning properly.
- Post a publicly visible sign with the telephone number and name of the person to contact regarding dust complaints and the BAAQMD telephone number. The contact person shall implement corrective measures, as needed, within 48 hours, and the

BAAQMD shall be informed of any legitimate complaints received to verify compliance with applicable regulations.

4.3.4 References

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4.4 Biological Resources

This section describes the environmental setting and regulatory background 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.

4.4.1 Environmental Setting

The proposed project site has been used historically for farming since the early 1920s but is not currently in agricultural use. There were two vacant residences, a mobile home, and a storage shed/warehouse onsite; however, these suffered fire damage and were demolished in 2021. To the north of the project site are the San Jose/Santa Clara Regional Wastewater Treatment Plant sludge drying beds, to the south is Highway 237, to the west is the Los Esteros Critical Energy Facility (LECEF), a Pacific Gas and Electric Company (PG&E) substation, and to the east is Coyote Creek. Habitat types onsite consist of agricultural fields (short-term fallowed), annual grassland, and developed portions of the site.

The Vegetation and Wildlife section of the Alviso Master Plan (San Jose 2017a) identifies existing habitats in the Plan area, of which the project site is a part. Habitat surveys were also performed by the project applicant (Jacobs 2019a). These habitats include seasonal wetlands, agricultural fields, and riparian areas along and aquatic conditions within Coyote Creek, including a small wetland (approximately 0.066 acre), which exists in the shape of a narrow triangular area near Ranch Drive in the southwestern corner of the site. It is dominated by a dense stand of California blackberry (*Rubus ursinus*); there is a pump station next to it. There is also a small depressional area within the site, which has not been mapped.

Importantly, the site is immediately southeast of the San Francisco Bay, which empties into the Guadalupe and Alviso sloughs, and is less than 2 miles southeast of the Don Edwards San Francisco Bay National Wildlife Refuge (Don Edwards NWR). In general, areas surrounding the project site are rich in abundance and diversity of flora and fauna, including the San Jose/Santa Clara Regional Wastewater Treatment Plant sludge drying beds to the north, which provide habitat for shorebirds and waterbirds.

A single special-status plant species may occur on or within several miles of the proposed project site (Congdon's tarplant/ *Centromadia parryi ssp. congdonii*), (CNDDB 2021, CEC 2021o, and Jacobs 2021o).

Special-status animal species may occur as foragers, transients, may be resident to the project site, or they may occur within areas adjacent to the site. These include (but are not limited to) steelhead (*Oncorhynchus mykiss*), American peregrine falcon (*Falco peregrinus anatum*), Alameda song sparrow (*Melospiza melodia pusillula*), yellow warbler (*Setophaga petechia*), northern harrier (*Circus hudsonius*), saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), tricolored blackbird (*Agelaius tricolor*), burrowing owl *(Athene cunicularia*), western snowy plover (*Charadrius alexandrinus nivosus*), white-tailed kite (*Elanus leucurus*), American peregrine falcon (*Falco peregrinus anatum*), northern harrier (*Circus hudsonius*), golden eagle (*Aquila chrysaetos*), western yellow-billed cuckoo (C*occyzus americanus occidentalis*), bald eagle (*Haliaeetus leucocephalus*), ringtail cat (*Bassariscus astutus*), Townsend's big-eared bat (*Corynorhinus townsendii*), salt marsh harvest mouse (*Reithrodontomys raviventris*), and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*). Several of the above-mentioned species may also roost or nest in trees or shrubs occurring on or adjacent to the site. Additional species are discussed below under each potential impact.

Waterbirds such as Forster's tern (*Sterna forsteri*) and snowy egret (*Egretta thula*) occur north of the project, along with shorebirds such as snowy plover (*Charadrius nivosus*), but are not expected to forage within the project site as the habitat is not suitable. Other species and habitat not directly affected by the project are discussed further below, such as serpentine habitat and/or USFWS-designated critical habitat.

Regulatory Background

Federal

Endangered Species Act (16 U.S.C., § 1530 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. Its purpose is to protect and recover imperiled species and the ecosystems for which they depend. It is administered by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). The USFWS is responsible for terrestrial and freshwater organisms while NMFS is responsible for marine wildlife such as whales and anadromous fish (such as salmon). Species may be listed as endangered or threatened. All species of plants and animals, except pest insects, are eligible for listing. Species are defined to include subspecies, varieties, and for vertebrates, distinct population segments. The ESA protects endangered and threatened species and their habitats by prohibiting the "take" of listed animals and the interstate or international trade in listed plants and animals, including their parts and products, except under federal permit. 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 Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). This Act - enforced through regulations written by the USFWS—prohibits the "taking" of bald and golden eagles, including their parts, nests, or eggs. To take is defined as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb" any bald or golden eagle, whether "alive or dead...unless authorized by permit".

Migratory Bird Treaty Act (16 U.S.C., §§ 703-711). The Migratory Bird Treaty Act (MBTA) makes it illegal to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid federal permit. The USFWS has authority and responsibility for enforcing the MBTA.

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. By federal law, every applicant for a federal permit or license for an activity that may result in a discharge into a California water body, including wetlands, must request state certification that the proposed activity will not violate state and federal water quality standards.

State

California Endangered Species Act (Fish and G. Code, §§ 2050-2098). The California Endangered Species Act (CESA) of 1984 states that all native species of fish, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threated or endangered designation, will be protected and preserved. CESA prohibits the take of any species of wildlife designated by the California Fish and Game Commission as endangered, threatened, or candidate species. The California Department of Fish and Wildlife (CDFW) may authorize the take of any such species if certain conditions are met. These criteria are listed in Title 14 of the 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 3503.5. This section makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes and Strigiformes or to take, possess, or destroy the nest or eggs of any such bird.

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 Migratory Bird Treaty Act or any part of such migratory nongame birds.

California Fish and Game Code Section 3800. All birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds are nongame birds. It is unlawful to take any nongame bird except as provided in this code or in accordance with regulations of the commission or, when relating to mining operations, a mitigation plan approved by the department.

The administering agency for the Fish and Game Code sections discussed above is CDFW.

Porter-Cologne Water Quality Control Act. The State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over all surface water and groundwater in California, including wetlands, headwaters, and riparian areas. The SWRCB or applicable RWQCB must issue waste discharge requirements for any activity that discharges waste that could affect the quality of waters of the state.

Local

The Santa Clara Valley Habitat Plan (SCVHP). This plan primarily covers southern Santa Clara County, as well as the City of San Jose (with the exception of the bayland areas). The SCVHP addresses listed species and species that are likely to become listed during the plan's 50-year permit term. The covered species include nine plants and nine animals. The SCVHP requires that the agencies comment on reportable interim projects and recommend mitigation measures or project alternatives that would help achieve the preliminary conservation objectives and not preclude important conservation planning options or connectivity between areas of high habitat value.

The project is considered a covered project under the SCVHP. As a result, the project would be subject to conditions and fees of the SCVHP, which would be calculated at the time the project submits an application, which corresponds to application timing of grading and/or building permits. The onsite portion of the development area and offsite utility alignments are within Fee Zone A: Ranchlands and Natural Lands. In addition, a Nitrogen Deposition Fee and temporary impact fees are expected to be assessed for the proposed project pursuant to applicable provisions of the SCVHP for vehicle miles traveled (non-point source emissions), mitigation for point-source emissions (the project itself) as well as a fee for potential impacts to burrowing owl (Condition 15 in Chapter 6, monitoring commitments in Chapter 7, Stay-Ahead requirements for the burrowing owl conservation strategy in Chapter 8, and the burrowing owl fee in Chapter 9; SCVHP, 2012). If impacted, onsite wetlands would also require compensation under the SCVHP The SCVHP also includes conditions that would apply to the project, which have been incorporated as enforceable project design measures, further described in this document.

Envision San Jose 2040 General Plan (General Plan). The General Plan aims to protect biological resources when properties are developed in San Jose. Generally, similar types of requirements occur in the General Plan as in the SCVHP. The General Plan includes several policies with respect to biological protections that are relevant to this analysis including, but not limited to, the following (San Jose 2020):

- Policy MS-21.4: Encourage the maintenance of mature trees, especially natives, on public and private property as an integral part of the community forest. Prior to allowing the removal of any mature tree, pursue all reasonable measures to preserve it.
- Policy MS-21.5: As part of the development review process, preserve protected trees (as defined by the Municipal Code), and other significant trees. Avoid any adverse effect on the health and longevity of protected or other significant trees through appropriate design measures and construction practices. Special priority should be given to the preservation of native oaks and native sycamores. When tree preservation is not feasible, include appropriate tree replacement, both in number and spread of canopy.
- Policy MS-21.6: As a condition of new development, require the planting and maintenance of both street trees and trees on private property to achieve a level of tree coverage in compliance with and that implements City laws, policies or guidelines.
- Policy MS-21.9: Where urban development occurs adjacent to natural plant communities (e.g., oak woodland, riparian forest), landscape plantings shall

incorporate tree species native to the area and propagated from local sources (generally from within 5-10 miles and preferably from within the same watershed).

- Policy ER-1.4: Minimize the removal of ecologically valuable vegetation such as serpentine and non-serpentine grassland, oak woodland, chaparral, and coastal scrub during development and grading for projects within the City.
- Policy ER-1.5: Preserve and protect oak woodlands, and individual oak trees. Any loss of oak woodland and/or native oak trees must be fully mitigated.
- Policy ER-1.6: Preserve, protect, and manage serpentine grasslands and serpentine chaparral, particularly those supporting sensitive serpentine bunchgrass communities providing habitat for sensitive plant and animal species. Development will not be permitted on serpentine grasslands or chaparral supporting state or federal candidate or listed threatened or endangered plant or animal species. Appropriately managed grazing is encouraged on serpentine grasslands.
- Policy ER-1.7: Prohibit planting of invasive non-native plant species in oak woodlands, grasslands, chaparral and coastal scrub habitats, and in hillside areas.
- Policy ER-2.1: Ensure that new public and private development adjacent to riparian corridors in San Jose are consistent with the provisions of the City's Riparian Corridor Policy Study and any adopted Santa Clara Valley Habitat Conservation Plan/ Natural Communities Conservation Plan (HCP/NCCP).
- Policy ER-2.2: Ensure that a 100-foot setback from riparian habitat is the standard to be achieved in all but a limited number of instances, only where no significant environmental impacts would occur.
- Policy ER-2.3: Design new development to protect adjacent riparian corridors from encroachment of lighting, exotic landscaping, noise and toxic substances into the riparian zone.
- Policy ER-2.4: When disturbances to riparian corridors cannot be avoided, implement appropriate measures to restore, and/or mitigate damage and allow for fish passage during construction.
- Policy ER-2.5: Restore riparian habitat through native plant restoration and removal of nonnative/invasive plants along riparian corridors and adjacent areas.
- Policy ER-4.1: Preserve and restore, to the greatest extent feasible, habitat areas that support special status species. Avoid development in such habitats unless no feasible alternatives exist, and mitigation is provided of equivalent value.
- Policy ER-4.3: Prohibit planting of invasive non-native plant species in natural habitats that support special-status species.
- Policy ER-4.4: Require that development projects incorporate mitigation measures to avoid and minimize impacts to individuals of special-status species.
- Policy ER-5.1: Avoid implementing activities that result in the loss of active native birds' nests, including both direct loss and indirect loss through abandonment, of

native birds. Avoidance of activities that could result in impacts to nests during the breeding season or maintenance of buffers between such activities and active nests would avoid such impacts.

- Policy ER-5.2: Require that development projects incorporate measures to avoid impacts to nesting migratory birds.
- Policy ER-6.3: Employ low-glare lighting in areas developed adjacent to natural areas, including riparian woodlands. Any high-intensity lighting used near natural areas will be placed as close to the ground as possible and directed downward or away from natural areas.
- Policy ER-6.6: Encourage the use of native plants in the landscaping of developed areas adjacent to natural lands.
- Policy ER-6.8: Design and construct development to avoid changes in drainage patterns across adjacent natural areas and for adjacent native trees, such as oaks.
- Policy ER-7.1: In the area north of Highway 237, design and construct buildings and structures using bird-friendly design and practices to reduce the potential for bird strikes for species associated with the baylands or riparian habitats of lower Coyote Creek.

Alviso Master Plan*.* The Vegetation and Wildlife section of the Alviso Master Plan (San Jose 2017a) identifies existing habitats in the Plan area, of which the project site is a part. These habitats include seasonal wetlands, agricultural fields, and riparian areas along and aquatic conditions within Coyote Creek. Special status animal species, including burrowing owls, are acknowledged to be within the Plan area and could be affected by future development.

Policies within the Plan, pertinent to the proposed project and linear features include those that respect and complement the natural setting, marshlands, waterways, trails, and other amenities of Alviso, as described in the following:

- Environmental Protection Policy 1: All new parking, circulation, loading, outdoor storage, utility, and other similar activity areas must be located on paved surfaces with proper drainage to avoid potential pollutants from entering the groundwater, Guadalupe River, Coyote Creek, or San Francisco Bay.
- Environmental Protection Policy 3: The riparian corridors adjacent to Coyote Creek and Guadalupe River should be preserved intact. Any development adjacent to the waterways should follow the City's Riparian Corridor policies.
- Environmental Protection Policy 4: To mitigate the loss of specific wildlife habitat due to development, certain lands should be set aside to provide needed habitat.

City of San Jose Riparian Corridor Policy and Bird-Safe Design. The City of San Jose has a riparian buffer policy that is administered through the Riparian Corridor Policy Study, Council Policy 6-34 became effective on August 23, 2016 (San Jose 2016). The purpose of Council Policy 6-34 is to provide guidance consistent with the goals, policies, and actions of the City's General Plan for 1) protecting, preserving, or restoring riparian habitat; 2) limiting the creation of new impervious surface within riparian corridor setbacks to minimize flooding from urban run-off, and control erosion; and 3) encouraging bird-safe design in baylands and riparian habitats of lower Coyote Creek, north of State Route 237. This policy supplements the regulations for riparian corridor protection already contained within the Habitat Plan, Municipal Code, and other existing City policies that may provide for riparian protection and bird-safe design.

Specific guidance pertaining to setbacks, allowed activities, and materials and lighting in riparian areas are included within Council Policy 6-34. Furthermore, bird-safe design guidelines for structures north of State Route 237 advise that buildings adhere to the following:

- Avoid use of mirrors and large areas of reflective glass.
- Avoid use of transparent glass skyways, walkways, or entryways, free-standing glass walls, and transparent building corners.
- Avoid funneling open space to a building façade.
- Strategically place landscaping to reduce reflection and views of foliage inside or through glass.
- Avoid or minimize up-lighting and spotlights.
- Turn non-emergency lighting off, or shield it, at night to minimize light from buildings that is visible to birds, especially during bird migration season (February through May and August through November).

For additional information on lighting, materials, glint, and glare, please refer to **Section 4.1 Aesthetics**.

Ordinance-Size Trees. The City of San Jose has a Tree Ordinance (Chapter 13.32 of the Municipal Code), which regulates the removal of trees. An "ordinance-size tree" is defined as any native or non-native tree species with a circumference of 56 inches (diameter of 18 inches) at 24 inches above the natural grade of slope. A tree removal permit is required from the City prior to the removal of any trees covered under the ordinance. Prior to the issuance of a tree removal permit, the City requires that a formal tree survey be conducted, which indicates the number, species, trunk circumference, and location of all trees that will be removed or impacted by the project.

4.4.2 Environmental Impacts

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional

plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Construction

Less Than Significant with Mitigation Incorporated. Special-status plants and animal species may be present in the study area and are protected by existing federal, state, and local laws, policies, and regulations as previously described above. Additionally, the proposed project entails the development of approximately 64.5 acres of the main portion of the site, and off-site utility infrastructure and roadway and bike trail improvement areas. These impacts could include nest failure of breeding migratory birds, loss of ordinance-sized trees, loss of potential habitat for sensitive species such as habitat for the western burrowing owl, and loss of foraging habitat for raptors such as white-tailed kite, American peregrine falcon, northern harrier, and golden eagle (among others). As discussed above, activities resulting in adverse impacts to these and other biotic resources (impacts such as weed proliferation) may be regulated by local, state, and federal laws. The natural resource issues specific to this project are discussed in detail below, including a detailed enumeration of potential impacts.

The applicant has proposed a measure requiring a worker environmental awareness program (WEAP) to help avoid biological impacts during construction. Staff considers this measure to be sufficient in most respects to reduce impacts to biological species during construction with a few exceptions. Because the applicant incorrectly states that copies of the training program should be supplied to the California Public Utilities Commission, a replacement measure is proposed with a minor correction. Further, the measure referenced that [California black] "rails" could be impacted, a species which is not reflected elsewhere in the SPPE application, nor is habitat available. The saltmarsh common yellowthroat and saltmarsh harvest mouse (discussed further below) could occur in nearby riparian habitat, or may traverse the site; respectively. No strictly obligate saltmarsh species are known or expected to occur on or immediately adjacent the project (Jacobs 2019a and 2021o; CNDDB 2021). Also, the measure referenced "Pull sites and Helicopter landing zones" which is unnecessary for this project. Staff has added requirements that direct the applicant to provide the City of San Jose and the Santa Clara Valley Habitat Agency with copies of the worker training program materials, and to replace "Rails" with saltmarsh common yellowthroat and saltmarsh harvest mouse in program materials addressing potential impacts to biological species. Staff proposes **BIO-13**, which would reduce the impact to biological species to a less than significant level by requiring the preparation and implementation of a WEAP.

Plants

As reported by Jacobs (2019a), of the 20 special-status plant species that occur regionally within habitats that are broadly similar to those of the project site, 19 are considered absent and/or unlikely to occur within the site due to the fact that they are not known to occur near the site, or they occur within habitats that are subtly and importantly different from those of the site (CNDDB 2021; Jacobs 2019a). Staff also relied on outreach specifically to USFWS (Andy Raabe, CEC 2021m and Rachel, CEC 2021o), and CDFW (Kristin Garrison, CEC 2021l), to determine species potentially affected.

As also reported by Jacobs (2019a), Congdon's tarplant was the only special-status plant with potential to occur in the study area, and this species was not detected in 2016 and 2017 surveys. Based on staff's research, Congdon's tarplant has the potential to occur. Congdon's tarplant is considered California Native Plant Society (CNPS) Rare Plant Rank 1B.1 (CNPS 2021), meaning that they are "rare throughout their range with the majority of them endemic to California".

Congon's Tarplant. This plant is a dicot, an annual herb that is native to California, and endemic (limited) to California. Listings of this plant appear in topographic quadrangles of Milpitas, Mountain View, and Santa Teresa Hills (per the California Natural Diversity Database (CNDDB 2021)). According to Calflora (2021), in the arid west, this species occurs usually in wetlands, and occasionally in non-wetlands, on grassland (the site primarily consists of agricultural habitat). While unlikely, the project may impact a small wetland onsite (Jacobs 2019a). The applicant determined that due to not finding the species during focused surveys, that there was no likelihood of occurrence on the site. However, staff disagrees based on the fact of local documented occurrences as well as the severity of California's long-standing and ongoing drought—which has the effect of suppressing growth and bloom—even though the plant may well persist in the seedbank and therefore could emerge. The "mega-drought" that California (including Santa Clara Valley) is experiencing, is tracked by the U.S Drought Monitor (U.S. Drought Monitor 2021). Santa Clara Valley is currently rated as experiencing "extreme" drought. Should the project disturb or remove the existing wetland(s), pre-construction surveys should take place for Congdon's tarplant, prior to habitat development.

While habitat may be marginal for the above species, based on outreach and staff's research, significant direct impacts may occur if individuals of these species are disrupted or removed. Therefore, staff recommends, based on communications with Kristin Garrison, CDFW (CEC 2021l) and Rachel Tertes, USFWS (CEC 2021o), measure **BIO-15**, which would require that a biologist perform protocol-level surveys for the Congdon's tarplant. In addition to **BIO-15**, **BIO-13** would also be required to reduce impacts on special-status plants. With implementation of **BIO-13** and **BIO-15**, impacts to special-status plants would be reduced to a less than significant level.

Wildlife

The following multiple special-status animal species may occur as foragers or transients, may be resident to the site, or may occur within areas adjacent to the site. This list is built from Jacobs (2019a), the USFWS Information for Planning and Consultation (2021), CNDDB (2021), and comment letters (CEC 2021f and Public 2021b) received in response to CEC staff's Notice of Preparation (NOP) of an Environmental Impact Report (EIR). In addition, to develop a species list and verify appropriate mitigation, staff performed outreach specifically to USFWS Bay Delta Region (Andy Raabe, 2021m), CDFW (Kristin Garrison CEC 2021), the San Francisco Bay Bird Observatory (SFBBO Max Tarjan 2021n), consulted the SFBBO web application Colonial Waterbird Program (SFBBO 2021), and consulted with USFWS staff (Rachel Tertes, CEC 2021o) who is specifically attached to the Don Edwards NWR, to determine species potentially affected by the project. Staff also considered the City of San Jose Draft Environmental Impact Report (San Jose 2017b) among other available sources of information. This Draft EIR includes the Technical Biological Report (Live Oak Consultants, Appendix D), and Tree Inventory (HMH Engineers, Appendix E).

This list is not exhaustive, but does include species that may occur, or were the focus of NOP comment letters such as salt marsh harvest mouse; discussed further below. These species include steelhead, American peregrine falcon, Alameda song sparrow, yellow warbler, northern harrier, salt marsh harvest mouse, salt marsh common yellowthroat, tricolored blackbird, western burrowing owl, western snowy plover, white-tailed kite, golden eagle, ringtail cat, Townsend's big-eared bat, and San Francisco dusky-footed woodrat.

The Coyote Creek riparian corridor habitat provides potentially suitable forage and nesting/denning habitat for the San Francisco dusky-footed woodrat and the ringtail cat. An individual could occur within the project site prior to project grading and/or vegetation removal. Direct mortality or injury to an individual of these species would be considered a significant impact under CEQA. However, reasonable measures, described below, could be implemented that would avoid impacts to individual riparian species. Staff proposes a measure, **BIO-16**, to reduce impacts to the San Francisco dusky-footed woodrat and ringtail cat. The measure requires pre-construction surveys and avoidance protocols for San Francisco dusky-footed woodrats and ringtail. **BIO-13**, requiring a WEAP, would also help avoid biological impacts during construction. With implementation of **BIO-13** and **BIO-16**, impacts to the San Francisco dusky-footed woodrat and ringtail cat would be reduced to a less than significant level.

Based on the CDFW's NOP comment letter, a question was raised of the potential for salt marsh harvest mouse to occur on the site. While the closest known (mapped) salt marsh habitat is approximately two miles away (CNDDB, 2021), and no salt marsh occurs on the project site, potential adjacent habitat may allow dispersal across the site (the site does not contain suitable salt marsh habitat for nesting or long-term habitation; yet may provide marginal habitat). Marginal habitat may consist of diked wetlands (Sustaita et al 2011). Staff also consulted with USFWS regarding this species (Andy Raabe CEC 2021m and Rachel Tertes, CEC 2021o). A habitat survey was recommended, per the CDFW NOP comment letter (CEC 2021f; CEC 2021l). Since a habitat survey was not performed, staff has developed and proposes a measure which both the USFWS and CDFW are in agreement with, requiring the protection and avoidance of the salt marsh harvest mouse (**BIO-17**). With implementation of **BIO-17**, impacts to the salt marsh harvest mouse would be reduced to a less than significant level.

Tree removal associated with project implementation could result in direct destruction of active nests of protected birds and raptors protected if tree removal occurs during the nesting season (generally defined as February 15 to August 15). Project construction could also result in indirect disturbance of nesting birds on or near the project site causing nest abandonment by the adults and mortality of chicks and eggs. Destruction of active bird nests, nest abandonment, and/or loss of reproductive effort caused by disturbance are considered "take" by the CDFW, and therefore would be a significant impact.

The applicant has proposed two measures to reduce potential impacts to protected raptors and other migratory birds (special-status species). Staff evaluated these measures in the context of the potential impacts to protected raptors and other migratory birds and concludes the measure is sufficient to reduce impacts. Staff proposes **BIO-1**, requiring pre-construction surveys for nesting migratory birds (including raptors) and **BIO-2**, requiring pre-construction surveys for tri-colored blackbird. **BIO-13**, requiring a WEAP, would also be required to ensure that impacts to raptors and migratory birds are reduced. Staff proposes **BIO-3** and **BIO-20** to mitigate the temporary and permanent loss of burrowing owl habitat, as required under the SCVHP. Additionally, **BIO-20** includes the requirement for payment of the permanent and temporary loss of agricultural land classified as Fee Zone B, under the SCVHP. With implementation of **BIO-1** through **BIO-3**, **BIO-13**, and **BIO-20**, construction of the project would not have a substantial adverse effect on protected raptors and other migratory birds and impacts would be reduced to a less than significant level.

Burrowing Owl. Burrowing owl may occur along earthen berms within the annual grassland located "in the field east of Zanker Road and north of the existing bike path along the western edge of the proposed offsite utility alignments (Jacobs 2021o Figure 3.4-1R). This berm had several black corrugated pipes installed within the berm. These may have been installed to promote habitat suitability of the property for burrowing owls. This berm provides habitat for California ground squirrels (*Otospermophilus beecheyi*), which have colonized many of the berms. Burrowing owls were not observed during the site surveys, but signage along Nortech Parkway indicated that the annual grassland in the western portion of the proposed utility alignments was being managed for burrowing owl and that burrowing owls may be present" (Jacobs 2021o and TN 230762: Figure 2.0-6). The applicant has proposed measures to avoid impacts to burrowing owl; however, staff evaluated these measures based on impacts to burrowing owls and based on staff's coordination with Kristin Garrison, CDFW (CEC 2021l), staff has enhanced the measure by including minimum buffer zones, as well as referencing the CDFW's *Staff Report on Burrowing Owl Mitigation* (2012) in establishing appropriate treatment of burrowing owl. Staff proposes **BIO-4** to reduce impacts to burrowing owls. The applicant proposed a measure outlining protocols for non-breeding season burrowing owls. Staff reviewed this measure in the context of impacts to burrowing owls and concludes the measure is sufficient. Staff proposes **BIO-5** to mitigate impacts to burrowing owls during construction.

The project applicant has agreed to pay applicable fees to the City Director or their designee, based on SCVHP fees (Jacobs 2019a). New land acquisitions and maintenance/monitoring are discussed in Chapter 5 of the SCVHP (2012). If a covered activity "occurs in occupied burrowing owl nesting habitat as defined in Figure 5-11, a burrowing owl fee will be paid by the project applicant. This fee will be in addition to the land cover fee. The burrowing owl fee is charged on the area on which land cover fees are levied." (page 9-33 SCVHP 2012). These fees must be paid before or at the time that the grading permit for the project is issued (page 9-42 SCVHP 2012); according to Table 9-6 (SCVHP 2012), the per acre burrowing owl fee was $50,438, and is currently at $60,825 per acre (SCVHA 2020) (but the project proponent must pay the most up-to-date fees as reported by the SCV Habitat Agency). Burrowing owl habitat is considered outside of Fee Zones as established by the SCVHP (2012) as mentioned above, and therefore is additional to Fee Zone payments for land cover types as described above (the SCVHP (2012) is "habitat-based" and therefore, fee payments are based on conversion of habitat, such as planned for potential burrowing owl habitat)Temporary impact fees are also assessed for burrowing owls as shown in SCVHA (2020) and SCVHP (2012) and are currently $60,825 per acre. **BIO-3** and **BIO-20** would mitigate permanent and temporary impacts to burrowing owl habitat.

The project site consists of short-term fallowed agriculture, (Figure 3.4-1, Jacobs 2019a), along with much of the offsite linear alignments, and as mapped by the SCVHA GeoBrowser (SCVHA 2021). This type of habitat is considered Fee Zone B, and, per SCVHA (2020), currently costs $15,043 per acre, subject to updated fee calculations as available from the SCVHA. The project applicant (Jacobs 2019a) stated that the project site was mapped as Fee Zone A: Ranchland and Natural Lands, consisting of grassland, oak woodland and chaparral (page 9-24 and Table 9-7a of SCVHP 2012) covering the development area and offsite utility alignments. However, based on staff's assessment and research, including accessing the SCVHA GeoBrowser (2021), the site is mapped as Fee Zone B. Pursuant to the SCVHP, mitigation for temporary and permanent impacts for habitat conversion is provided as **BIO-20**; implementation of this measure would ensure that impacts to habitat are fully mitigated. This measure also ensures that foraging habitat for wildlife is replaced, protected, and monitored in perpetuity, pursuant to the SCVHP. With incorporation of **BIO-3** through **BIO-5** and **BIO-20**, impacts to burrowing owls would be reduced to a less than significant level.

Operation

Less Than Significant with Mitigation Incorporated. The proposed project is considered a "covered project" under the SCVHP. The Santa Clara Valley Habitat Agency (SCVHA) leads the implementation of the SCVHP, although fees for this project are paid to the City of San Jose. The SCVHP defines measures to avoid, minimize, and mitigate impacts on covered species and their habitats. These measures are described as conditions on covered activities designed to achieve the following objectives:

- Provide avoidance of covered species during implementation of covered activities throughout the study area.
- Prevent take of individuals from covered activities as prohibited by law.

- Minimize adverse effects on natural communities and covered species where conservation actions will take place.
- Avoid and minimize impacts on jurisdictional wetlands and waters throughout the study area.

Non-Point Source Nitrogen Emission and Deposition

To be consistent with the SCVHP, the applicant is required to pay a nitrogen deposition fee, in-lieu of providing compensatory mitigation, for projects that result in atmospheric nitrogen emissions. Nitrogen deposition is the input of nitrogen oxide (NOx) and ammonia (NH3) "atmospherically derived pollutants" (ADP) primarily nitric acid (HNO3), from the atmosphere to the biosphere. Nitrogen deposition sources are primarily vehicle, agriculture, and industrial emissions (including power plants). The fee is determined by the number of new vehicle trips for the proposed project. However, this nitrogen deposition fee is only assessed on mobile emission sources because it was not feasible to calculate impacts from point source emissions at the time the SCVHP was being prepared (SCVHP 2012). The project's backup generators would also contribute (as a point source of emissions) to nitrogen deposition; staff also therefore analyzed nitrogen deposition from the testing and maintenance of the backup generators to potential sensitive habitats.

The proposed project would generate a maximum of 306 new daily vehicle trips during operations (Jacobs 2021x, Table 5, page 29). For new daily vehicle trips, the nitrogen deposition fee is calculated by taking the number of new daily vehicle trips and multiplying it by the nitrogen deposition fee of $5.31 (currently)(SCVHA 2020). For permanent impacts the daily vehicle trips (306) multiplied by $5.31 results in a nitrogen deposition fee of $1,642.86. Because the project proponent has yet to mitigate for these impacts, staff proposes **BIO-18**, requiring the one-time payment of a nitrogen deposition fee, which would reduce impacts non-point sources to below the level of significance.

Point Source Nitrogen Emission and Deposition

Testing and maintenance of the backup generators would result in NOx emissions. Nitrogen deposition is the input of nitrogen oxide (NOx) and ammonia (NH3) "atmospherically derived pollutants" (ADP) primarily nitric acid (HNO3), from the atmosphere to the biosphere. Nitrogen deposition sources are primarily vehicle, agriculture, and industrial emissions (including power plants).

The applicant performed an analysis of the potential nitrogen deposition related to the project's generators using AERMOD, which resulted in a maximum modeled annual deposition of 1.16 kg N/ha/yr, at the southern fence line of the project (Jacobs 2021o, page 3.4-25). This analysis, however, did not account for background existing nitrogen deposition or provide nitrogen deposition isopleths, and so CEC Biological Resource staff, in concert with CEC Air Quality staff, have undertaken an independent analysis, as described further below. This analysis covers a six mile radius, as this is the typical deposition zone for NOx in staff's experience. Please also refer to **Appendix C** for additional information regarding these calculations and the underlying methodology.

Mechanisms by which nitrogen deposition can lead to impacts on sensitive species include changes in species composition among native plants and the enhancement of invasive species such as grasses (Fenn et al. 2003, Weiss 2006, and CEC 2006). The increased dominance and growth of invasive annual non-native species is especially prevalent in low biomass vegetation communities that are naturally nitrogen-limited (e.g., serpentine soils). Nitrogen deposition artificially fertilizes the soil and creates better conditions for non-native species to persist and to ultimately displace native species, resulting in type conversion (conversion of one habitat type to another). Increased nitrogen deposition in nitrogen poor soils has allowed for the proliferation of non-native species that can crowd out native species. For this project, as an example, species affected would be most beautiful jewelflower (*Streptanthus albidus ssp. peramoenus*).

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 have been documented to occur over long-term studies. Several NOx-sensitive habitats occur within six miles of the project site: Northern Coastal Salt Marsh Habitat, critical habitat, Northern Coastal salt marsh, and serpentine habitat.

Staff worked with the Santa Clara Valley Habitat Agency (which implements the SCVHP) and reviewed previous projects such as the Great Oaks South-SV1 project (20-SPPE-01) to determine appropriate mitigation for point source nitrogen deposition impacts from the proposed project. CDFW and USFWS had no feedback to share (CEC 2021l and CEC 2021m). These sensitive habitats are discussed further below.

Northern Coastal Salt Marsh Habitat. Special-status species such as: salt marsh common yellowthroat, California Ridgway's rail *(Rallus longirostris obsoletus)*, yellow rail (*Coturnicops noveboracensis*), Alameda song sparrow (*Melospiza melodia pusillula*), salt-marsh harvest mouse, salt marsh wandering shrew (*Sorex vagrans halicoetes*), Point Reyes birds'-beak (*Cordylanthus maritimus ssp. palustris*) and saline clover (*Trifolium depauperatum var. hydrophilum*) 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 CDFW's California Natural Diversity Database (CNDDB 2021).

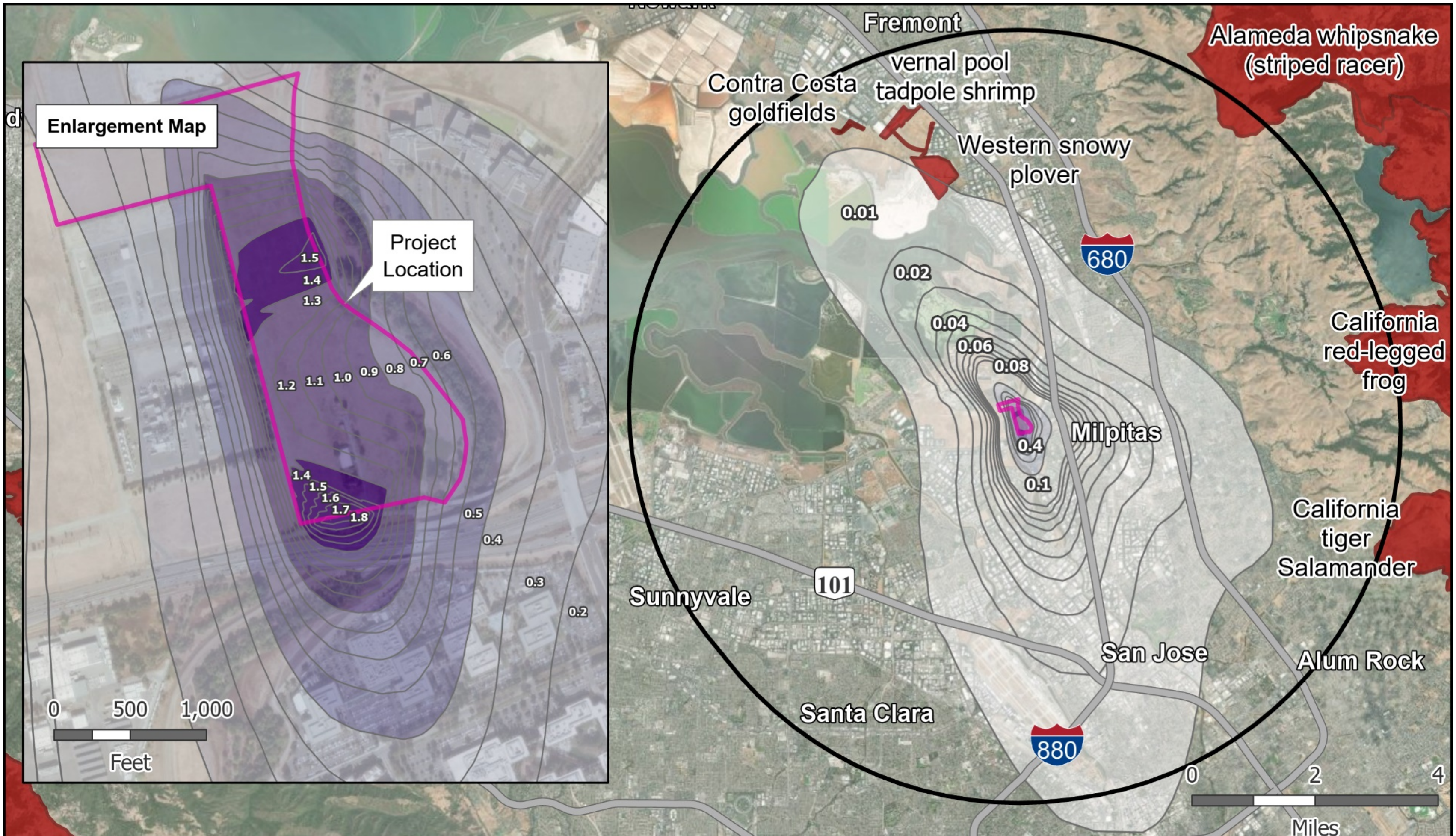
Salt marsh habitat has a high tolerance of nitrogen input because of its open nutrient cycle (Pardo et. al. 2011, pg. 3071). Critical load has been estimated to be in the range of 30-40 kilogram of nitrogen per hectare per year (kg N/ha/yr) for early successional salt marsh (Achermann and Bobbink 2002, 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).

Conservative modeling using AERMOD, performed by CEC staff yielded estimated levels of nitrogen deposition of between 0.01 and 1.8 kg N/ha/yr within a six-mile radius of the project, see **Figure 4.4-1**.

It is understood that emissions from the proposed project would not be the only source of nitrogen deposition in sensitive habitat. There are existing industrial stationary (point) sources (such as Los Esteros Critical Energy Facility, which went operational in 2003) as well as mobile sources (i.e., transportation) in the project area that collectively contribute to elevated local and regional nitrogen deposition. To account for this, staff also acquired shapefiles for the Community Multiscale Air Quality (CMAQ 2012) modeling-predicted values of annual total deposition and used data from 2012. According to the most currently available data, background nitrogen deposition at the Northern Coastal Salt Marsh for 2012 is estimated to be 11.39 kg N/ha/y (CMAQ 2012; **Figure 4.4-2**).

While the data from CMAQ (2012) is dated, it is the most current data available to staff, and furthermore, is considered to still be conservative in values reported. This is documented by the Santa Clara Valley Habitat Plan Final Environmental Impact Report/ Environmental Impact Statement Volume I, which states that "Overall ozone levels in the Bay Area, however, are expected to decrease over time (Santa Clara County 2012, page 16-12). For example, the Bay Area AQMD [Air Quality Management District] predicts that Bay Area NOx emissions would decrease from 521 tons per day to 357 tons per day by 2020. This decrease in emissions would be the result of extensive mitigation efforts at the federal, state, and local levels."

From this data, staff used the most conservative values to determine impacts to biological resources. 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 such as saline clover, Point Reyes birds'-beak, California Ridgway's rail, salt marsh common yellowthroat, Alameda song sparrow, yellow rail, salt-marsh wandering shrew, and salt-marsh harvest mouse (among others).



San Jose Data Center

USFWS Critical Habitat

Nitrogen Deposition (kg N/ha/yr)	Acres
0.01	46.0

Nitrogen Deposition
(kg N/ha/yr)

- 0.01 ≤ 0.1
- 0.2 ≤ 0.4
- 0.5 ≤ 0.8
- 0.9 ≤ 1.3
- 1.4 ≤ 1.8

Figure 4.4-1
San Jose Data Center
Nitrogen Deposition with
USFWS Critical Habitat

Sources: Aspen EG, US Fish and Wildlife Service, Jacobs 2021o

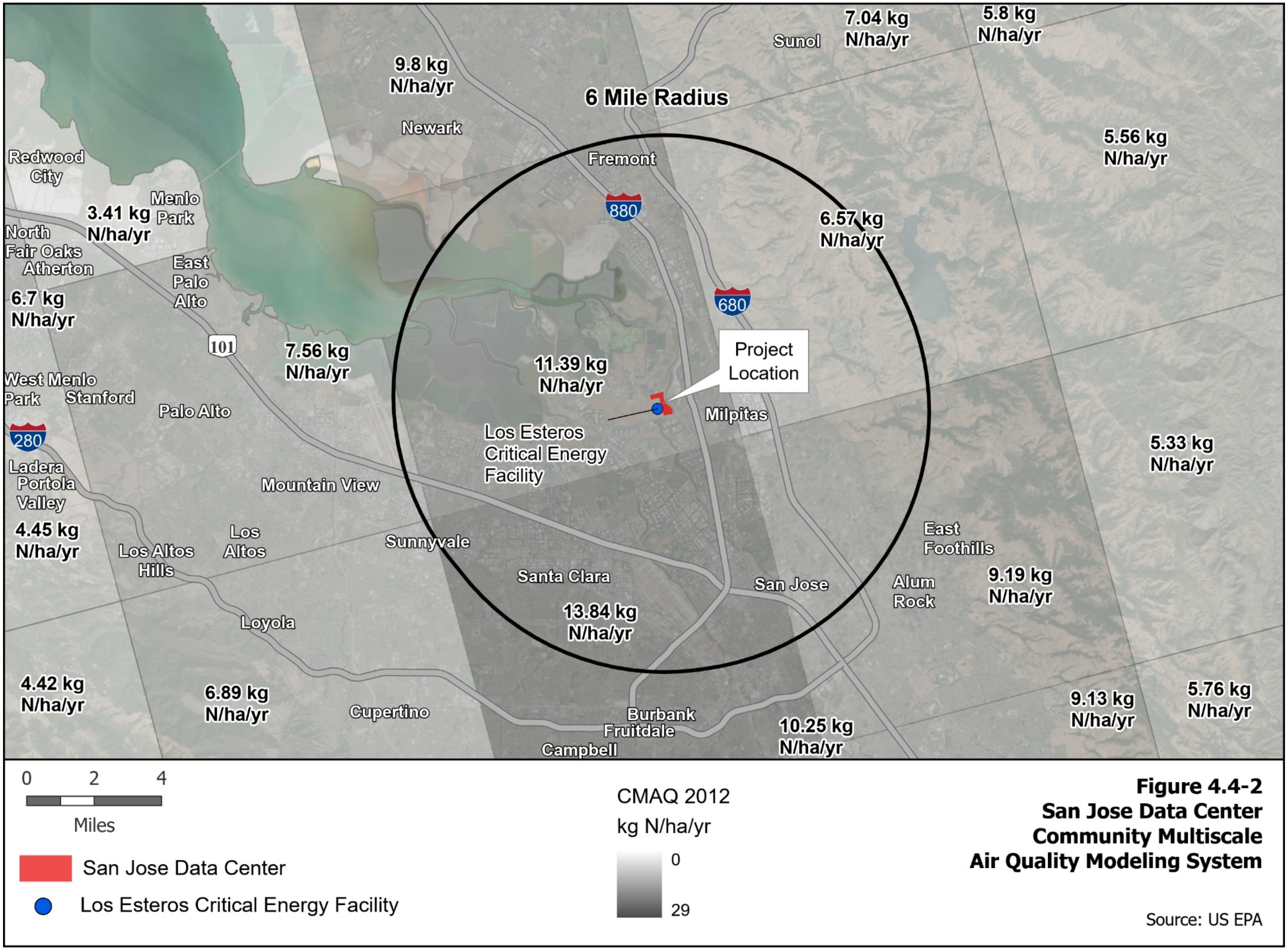
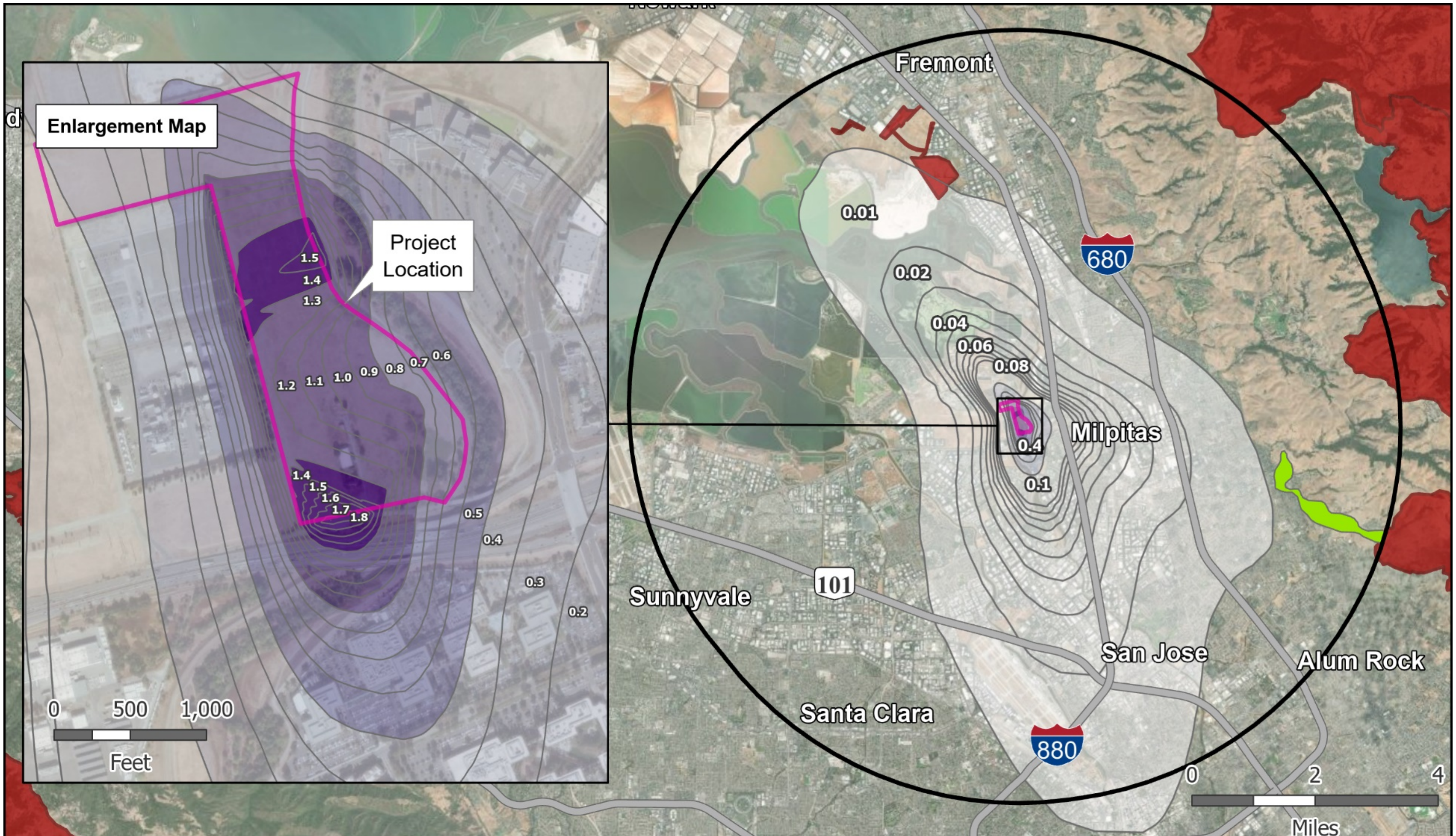


Figure 4.4-2
San Jose Data Center
Community Multiscale
Air Quality Modeling System

Source: US EPA



San Jose Data Center

Serpentine Bedrock

Note: Serpentine soils are assumed to occur where serpentine bedrock has been mapped.

Nitrogen Deposition (kg N/ha/yr)

0.01 ≤ 0.1
0.2 ≤ 0.4
0.5 ≤ 0.8
0.9 ≤ 1.3
1.4 ≤ 1.8

Figure 4.4-3
San Jose Data Center
Nitrogen Deposition
with Serpentine Bedrock

Sources: Serpentine Bedrock layer from SVCHCP, 2012, Figure 3-4
Other layers: Aspen EG, US Fish and Wildlife Service, Jacobs 2021o

Serpentine Soils. Serpentine soils and associated plants such as most beautiful jewelflower (*Streptanthus albidus ssp. peramoenus*) are designated nitrogen-sensitive pursuant to the SCVHP (SCVHP 2012; Figure 3-4) and are also listed under General Plan policy 1-6. No sensitive wildlife species are mapped in this area (CNDDB 2021) but may also occur. Serpentine bedrock is mapped within 6 miles of the project site, see **Figure 4.4-3**. Background (existing) nitrogen deposition in this area is currently mapped at 9.19 kg N/ha/yr, see **Figure 4.4-2**. According to Pardo et al (2011) serpentine habitat has a critical load limit of 6.0 kg N/ha/yr (page 3,058). Project deposition for this area is modeled by Air Quality staff (using AERMOD; see **Section 4.3 Air Quality**) to be approximately zero (**Figure 4.4-3**). These figures are conservative, given the means in which they were modeled by Air Quality staff, such as modeling Tier 2 engines (the project proposes Tier 4 engines) for the administrative generators as they represent the worst-case NOx emission sources, and selecting the maximum rate modeled in any of the 5 years for plotting, and assuming all NOx (in terms of NO from the stack) and all NH3 converts to atmospheric nitrogen see **Section 4.3 Air Quality** and **Appendix C**). Therefore, no impacts to serpentine habitat would occur.

Critical habitat. Critical habitat is a type of special status habitat is defined by the USFWS, and consists of appropriate habitat for the Western snowy plover (*Charadrius nivosus nivosus*), California red-legged frog (CRLF; *Rana draytonii*; formerly *Rana aurora draytonii*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), California tiger salamander (*Ambystoma californiense*), vernal pool tadpole shrimp (*Lepidurus packardi*), and Contra Costa goldfields (*Lasthenia conjugens*), to the north and east of the project just within six miles of the project, where nitrogen deposition could have an impact. This conclusion is based on staff's experience with the geographical extents of NOx deposition (**Figure 4.4-1**).

Alameda whipsnake critical habitat consists of "...northern coastal sage scrub and coastal sage. Rock outcrops, rock crevices and mammal burrows are important features of their habitat because they provide safe escape from predators and heat and a place to hibernate. The areas where the Alameda whipsnake are most commonly found occur on "east, south, southeast, and southwest facing slopes" (USFWS, 2021a), and while within the 6-mile nitrogen deposition modeled for the project (**Figure 4.4-1**), nitrogen deposition is expected to be zero kg N/ha/yr. Therefore, this special-status habitat has been dismissed from further analysis.

California tiger salamander critical habitat consists of "California's Central Valley grasslands and the oak savannah plant communities of California's Central Valley, the Sierra Nevada and Coast ranges, and San Francisco Bay, below approximately 1,500 feet (457 meters)." (CDFG 2012b). Further, habitat is "fishless, seasonal or semi-permanent wetlands to reproduce, with surrounding terrestrial migration and dispersal habitat that contains active ground squirrel or gopher burrows to serve as underground retreats." (CDFG 2012a). Additionally, this habitat is considered sensitive by the CDFW and the Santa Clara Valley Habitat Agency. Oak woodland habitat for the California tiger salamander occurs within the 6-mile nitrogen deposition zone (**Figure 4.4-1**), which may affect the California tiger salamander. Critical load for this habitat is predicted at 10-14 kg N/ha/yr (Pardo et al 2011), and background NOx deposition is modeled at 6.57 to 9.19 kg N/ha/yr (**Figure 4.4-2**). Predicted (modeled) NOx deposition from the project is zero kg N/ha/yr. Therefore, no indirect impacts would occur, and this species has been dismissed from further analysis.

California red-legged frog critical habitat. CRLF habitat consists of riverine habitat, in "aquatic habitats including pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dune ponds and lagoons" (USFWS 2002). Background NOx deposition is modeled at 6.57 to 9.19 kg N/ha/yr (**Figure 4.4-2**). Project NOx deposition has been modeled at zero kg N/ha/yr (**Figure 4.4-1**); this habitat and species have therefore been dismissed from further consideration of adverse nitrogen deposition impacts, as no impacts would occur.

Western snowy plover critical habitat. Western snowy plover habitat consists of "coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Less common nesting habitats include bluff-backed beaches, dredged material disposal sites, salt pond levees, dry salt ponds, and river bars. In winter, Western snowy plovers are found on many of the beaches used for nesting as well as on beaches where they do not nest, in man-made salt ponds, and on estuarine sand and mud flats" (USFWS 2007). This habitat, loosely considered intertidal salt marsh per Pardo et al, 2011 due to habitat consisting of dune and beach habitat, which would experience tidal influence, has a critical load of 63-100 kg N/ha/yr, see **Figure 4.4-1**. The background NOx depositional rate per CMAQ is 11.39 kg N/ha/yr (**Figure 4.4-2**), therefore, no significant impacts are expected as project NOx deposition in the area is conservatively modeled to be 0.01 kg N/ha/yr (**Figure 4.4-1** and **Appendix C**).

Vernal pool tadpole shrimp critical habitat. This species occupies "ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands in California" (USFWS 2007b). The background NOx depositional rate per CMAQ is 11.39 kg N/ha/yr (**Figure 4.4-2**), therefore, no impacts are expected as project NOx deposition in the area is conservatively modeled to be zero kg N/ha/yr (**Figure 4.4-1**).

Contra Costa goldfields critical habitat. This species typically grows in vernal pools, swales, moist flats, and depressions within a grassland matrix (USFWS 2021b). Background NOx depositional rate per CMAQ is 11.39 kg N/ha/yr (**Figure 4.4-2**), therefore, no impacts are expected as project NOx deposition in the area is conservatively modeled to be zero kg N/ha/yr (**Figure 4.4-1**).

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?

Construction

Less Than Significant with Mitigation Incorporated. Riparian habitat occurs along Coyote Creek, which is located adjacent to the eastern boundary. A 100-foot buffer from the toe of the levee is incorporated within the design; therefore, the project would comply with the riparian setback requirements of the City of San Jose (General Plan), the City of San Jose Riparian Corridor Policy and Bird-Safe Design, and the SCVHP. Because no work would take place within the riparian corridor associated with Coyote Creek, development of the site would not constitute a significant effect on sensitive and protected habitat communities, with implementation of **BIO-7** and **BIO-13**. These measures are necessary to reduce impacts to riparian habitat or other sensitive natural community. With implementation of **BIO-7** and **BIO-13**, impacts to riparian habitat or other sensitive natural community would be reduced to a less than significant level (as explained further under impact criterion "a", above). Impacts to other sensitive communities as defined by the CDFW, USFWS, and the SCVHP (2012), such as serpentine bedrock and its associated flora and fauna, and USFWS-designated critical habitat (further described above in criterion "a"), would be avoided.

Operation

Less Than Significant with Mitigation Incorporated. The implementation of the National Pollutant Discharge Elimination System (**Section 4.10 Hydrology and Water Quality Section**) 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.

Habitat sensitive to nitrogen deposition is discussed under CEQA criterion "a", above. A measure requiring a one-time fee payment for new daily vehicle trips shall be paid for mobile emission sources to mitigate operational impacts to these sensitive communities. With implementation of **BIO-18**, impacts to these sensitive communities would be reduced to a less than significant level. In accordance with General Plan Policy ER-1.5-6, serpentine and critical habitat (oak woodlands) would be outside of nitrogen deposition zones and therefore no impacts would occur. Impacts to riparian habitats or areas regulated by the U.S. Army Corps of Engineers (USACE), RWQCB, or CDFW would be considered significant. The applicant has proposed a measure to ensure that requirements of the CDFW, USACE, and the RWQCB are followed within those agencies' respective purview, including obtaining any permits required for the construction of the utility lines in the offsite infrastructure alignment areas, as well as compliance with any additional conditions attached to any required permits and monitoring requirements (if any). Staff evaluated this measure in the context of the potential impacts to riparian habitats or areas regulated by the above-listed agencies and concludes this measure is sufficient to reduce impacts. Staff proposes **BIO-11** to reduce impacts to riparian habitats or areas regulated by the above-listed agencies to a less than significant level. Also, **BIO-7** would be necessary to reduce impacts to riparian habitats or area regulated by the above-listed agencies. The applicant proposed a measure requiring the payment of fees, consistent with the SCVHP (Conditions 3, 4, and 12 from Chapter 6, along with Table 9-11) for impacts to wetlands. Staff reviewed this measure in the context of impacts to wetlands and concludes the measure is sufficient to reduce impacts. Staff proposes **BIO-15** to ensure that the required fees are paid, should the project impact onsite wetlands. With implementation of **BIO-7**, **BIO-11**, and **BIO-13**, impacts to riparian habitat or other sensitive natural communities are reduced to a less than significant level. Further, the project design incorporates bioswales with each of the two onsite buildings (Jacobs 2019a, Section 2.1), to further manage storm water and prevent degradation of Coyote Creek.

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?

Construction and Operation

Less Than Significant with Mitigation Incorporated. A small wetland occurs to the southwest of the project site (0.066 acre). Further, Jacobs (2019a) states that "a depression exists along the proposed utility line corridors immediately west of the PG&E substation, and historical photography from available aerial imagery shows that this area has held ponded water at some points in the past (Figure 3.4-2 Jacobs 2019a). This feature is potentially a wetland. Immediately adjacent to the eastern boundary of the project is the Coyote Creek riparian corridor; however, no work will be conducted within 100 feet of the toe of the Coyote Creek levee or near the small wetland." It is undetermined if the project may impact this wetland (Jacobs 2019a), as mitigation measures including an Aquatic Resources Delineation Report have been proposed by the project applicant. Staff has evaluated the applicant's measures in the context of impacts to wetlands and concludes the measures are sufficient to reduce impacts. The measures would require a biological monitor to be present daily during utility line construction in the vicinity of the wetland, require the removal of wetland vegetation and/or trees be limited to the minimum extent, require all seed mixtures used for revegetation of the impacted wetland area to be locally native or sterile nonnative species only, and require an aquatic resources delineation covering the entire project area.

Staff proposes **BIO-8**, requiring a biological monitor, **BIO-9**, requiring limited removal of wetland vegetation and/or trees, **BIO-10**, requiring reseeding with locally native or sterile nonnative species, and **BIO-14**, requiring an aquatic resources delineation. **BIO-11** would also be protective of wetlands as the measure requires compliance requirements of the USACE, RWQCB, or CDFW for riparian habitats or areas regulated by these agencies.

If wetlands are impacted, a wetland development fee is necessary pursuant to the SCVHP (SCVHP 2012, Condition 12, page 2-39). Therefore, staff proposes **BIO-19**, requiring that mitigation fees are paid pursuant to the Santa Clara Valley Habitat Plan (Table 9-11) if onsite wetlands are developed or impacted.

Impacts to the onsite wetland could also impact the Congdon's tarplant. **BIO-15** requires that prior to any disturbance of the onsite wetland, performance of protocol-level surveys for the Congdon's tarplant during blooming season to reduce impacts to this species. For more detail about impacts to the Congdon's tarplant see impact criterion, "a". **BIO-13**, requiring a WEAP, would also ensure that onsite construction personnel are aware of and avoid any inadvertent impacts to wetlands, such as trampling or grubbing/grading.

With implementation of **BIO-8** through **BIO-11**, **BIO-13** through **BIO-15**, and **BIO-19**, impacts to state of federally protected wetlands would be reduced to a less than significant level.

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?

Construction and Operation

Less Than Significant Impact. The proposed project would not occur in a wildlife movement corridor. It would have no impact on the movement of native resident or migratory fish or wildlife species. The Coyote Creek corridor, located approximately 100 feet to the east of the proposed project, is the closest area where movement or migration of native resident wildlife species would occur. Impacts to the Coyote Creek corridor, such as glint and glare (lighting) are covered by **Section 4.1 Aesthetics**, which concludes that a "Less Than Significant Impact" would occur. "Construction and operation of the project would not create a new source of substantial light or glare adversely affecting day or nighttime views in the area".

Storm water or pollutant runoff (discussed further in **Section 4.10 Hydrology and Water Quality**) would be controlled via a National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) administered by the State Water Resources Control Board. Prior to any ground-disturbing construction activity, the applicant must comply with the Construction General Permit, which includes preparation of a construction Storm Water Pollution Prevention Plan. This is considered a less than significant impact and no mitigation has been imposed.

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

Construction and Operation

Less Than Significant with Mitigation Incorporated. A tree survey was conducted by Lisa Harris, ISA Certified Arborist #WE-9977A with HMH Engineers on September 18, 2015 (San Jose 2017a, Appendix E). Twenty-four trees were found to be of ordinance-size onsite, per the City of San Jose Tree Ordinance. No trees are located within the off-site utility alignment areas, and the trees along the roadway improvements are outside the fenceline, as depicted in photos shown in a Cultural Resources survey (TN #236296). Final data regarding tree removal will need to be collected and transmitted to the Director or Director's designee with the City of San Jose Department of Planning, Building, and Code Enforcement (PGBE), or the Director's designee.

General Plan Policy MS-21.4 and Policy MS-21.5d protect native and nonnative trees ("ordinance trees"). The applicant has proposed a measure that requires that the project site, including linear alignments and the bike path are surveyed by a certified arborist or biologist and a Tree Protection Plan TPP is to be prepared. Staff evaluated this measure in the context of impacts to trees and concludes the measure is sufficient to reduce impacts. All project design measures for impacts to trees that may be retained are subject to agreement with the Director (or their Designee) with the City of San Jose PBCE in accordance with the provisions of the City's Tree Preservation Ordinance. Staff proposes **BIO-12** to would ensure that ordinance trees are protected during construction.

If tree(s) need to be removed, a tree removal permit would be required from the City should any ordinance-sized trees be removed; this would reduce any adverse impacts to a less than significant level and thus the project would not conflict with local policies or ordinances protecting biological resources. Additionally, a WEAP (**BIO-13**) would ensure no significant impacts to trees would occur. With implementation of **BIO-12** and **BIO-13**, impacts to ordinance-sized trees (including non-natives as specified within City policy) would be reduced to a less than significant level.

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?

Construction and Operation

Less Than Significant with Mitigation Incorporated. The Santa Clara Valley Habitat Plan (SCVHP 2012) provides for the protection and recovery of resources over a 519,000-acre study area encompassing most of the land in Santa Clara County.

Operation and maintenance of the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan (the SCVHP), Natural Communities Conservation

Plan, or other approved local, regional, or State habitat conservation plan or result in a significant direct or indirect impact after mitigation. Non-point source emissions are considered in the SCVHP. As discussed above in impact criterion "a", non-point source emissions from the project would be significant without mitigation. Implementation of **BIO-18** would reduce the projects impacts from nitrogen deposition, and the project owner has agreed to pay fees to the City for habitat loss. These measures would reduce impacts to less than significant after implementation.

4.4.3 Mitigation Measures

BIO-1: If initial site disturbance activities, including tree, shrub, or vegetation removal, are to occur during the breeding season February 1st to August 31st inclusive, a qualified biologist shall conduct pre-construction surveys for nesting migratory birds onsite and within 250 feet (for raptors) of the site, where accessible. The survey shall occur within 7 days of the onset of ground disturbance if disturbances are to commence between February 1st and June 30th and within 30 days prior to the onset of ground disturbance between July 1st and August 31st. If a nesting migratory bird were to be detected, an appropriate construction-free buffer shall be established in consultation with the California Department of Fish and Wildlife (CDFW) and the Santa Clara Valley Habitat Agency. The actual size of the buffer, which shall be determined by the project's qualified biologist, would depend on species, topography, and type of activity that would occur in the vicinity of the nest. The project buffer would be monitored periodically by the project biologist to verify compliance. After the nest is completed, as determined by the biologist, the buffer would no longer be required. The project owner shall notify the city of San Jose Director of the Department of Planning, Building and Code Enforcement or their designee of a nesting bird within 24 hours of detection, including sharing avoidance (buffer) placement and size.

BIO-2: The SCVHP identifies the project site to be within 250 feet of potentially suitable tricolored blackbird nesting habitat occurring along Coyote Creek. The project applicant shall conduct surveys for tricolored blackbirds within 250 feet of this habitat, where visual access is possible, prior to start of construction following protocols in Condition 17 in Chapter 6 of the SCVHP. Such protocols include the following:

- Prior to any ground disturbance, a qualified biologist shall complete a background assessment to determine if there has been nesting at the site or near the site in the past 5 years. This includes checking the CNDDB, contacting local experts, and looking for evidence of historical nesting (i.e., old nests).
- If nesting in the past 5 years is not evident, the qualified biologist shall conduct a preconstruction survey in areas identified in the habitat survey as supporting potential tricolored blackbird nesting habitat. Surveys shall be made at the appropriate times of year when nesting use is expected to occur and shall document the presence or absence of nesting colonies of tricolored blackbird. Surveys shall conclude no more than 2 calendar days prior to construction, per Condition 17 of Chapter 6 in the SCVHP.

- Should a nesting colony of tricolored blackbirds be located, a 250-foot construction-free buffer shall be established from the edge of all hydric vegetation associated with the nest site and the buffer shall be avoided, and the CDFW and USFWS shall be notified immediately.
- If construction occurs in the project site during the nesting season and when the 250-foot buffer is in place around active nesting habitat, a qualified biologist shall conduct periodic monitoring of the site to confirm that the 250-foot buffer is enforced. The biologist shall have the authority to increase the buffer size if needed based on tricolored blackbird behavior at the active nesting area.
- If active tricolored blackbird nesting occurs within 250 feet of the project site and offsite utility alignment areas and construction occurs during the active nesting period resulting in the need for a buffer, the qualified biologist shall conduct training for construction personnel in avoidance procedures, buffer zones, and safety protocols to verify no impacts to the nest.

The project owner shall notify the city of San Jose Director or their designee, the CDFW, and the USFWS within 24 hours of detection of tricolored blackbird nests and all avoidance measures taken.

BIO-3: To mitigate impacts to occupied burrowing owl habitat, the project applicant shall pay the applicable burrowing owl fee as specified in the SCVHP for each acre of occupied burrowing owl nesting habitat impacted as a result of project buildout. Fees shall also be required from the loss of foraging habitat on the habitat offsite (approximately 64.5 acres). Pursuant to the SCVHP (2012), impacts to both temporary and permanent burrowing owl nesting habitat are (currently) to be mitigated at a rate of $60,825 per acre (SCVHA 2020), however, the project owner must pay the most up-to-date fees as reported by the Santa Clara Valley Habitat Agency. Fees are to be paid to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code enforcement, before or at the time that the grading permit for the project is issued.

BIO-4: The project applicant shall conduct preconstruction surveys to ascertain whether burrowing owls occupy burrows on the site and along the utility alignments offsite prior to construction. The preconstruction surveys shall be performed by a qualified biologist and shall consist of a minimum of two surveys, with the first survey no more than 14 days prior to initial construction activities (i.e. vegetation removal, grading, excavation, etc.) and the second survey conducted no more than 2 days prior to initial construction activities. If no burrowing owls or fresh sign of burrowing owls are observed during preconstruction surveys, construction may continue. However, if a burrowing owl is observed during these surveys, occupied burrows shall be identified by the monitoring biologist and a buffer shall be established, as follows:

- If an active nest is found, a qualified biologist shall study nesting behavior and shall establish at a minimum a 250-foot non-disturbance buffer around all nest sites, based on stress response of the birds and the 2012 Staff Report (CDFW 2012). If the biologist determines that the nest is vacant, the non-disturbance buffer zone may be removed, in accordance with measures described in the SCVHP. The biologist shall supervise hand excavation of the burrow to prevent reoccupation only after receiving approval from the wildlife agencies (CDFW and USFWS) in accordance with Chapter 6, Condition 15 of the SCVHP.

- For permission to encroach within the nest buffer, (February 1st through August 31st), an Avoidance, Minimization, and Monitoring Plan shall be prepared and approved by the City and the wildlife agencies prior to such encroachment in accordance with Chapter 6 of the SCVHP.

An Avoidance, Minimization, and Monitoring Plan shall be prepared, provided to the agencies, and approved by the City Director or their designee and the wildlife agencies prior to nest encroachment in accordance with Chapter 6 of the SCVHP.

BIO-5: Should a burrowing owl be located during the non-breeding season (September through January), a 250-foot buffer shall be established, and construction activities shall not be allowed within the 250-foot buffer of the active burrow(s) used by any burrowing owl unless the following avoidance measures are adhered to:

- A qualified biologist shall monitor the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
- The same qualified biologist shall monitor the owls during construction. If the biologist determines there is a change in owl nesting and foraging behavior as a result of construction activities, these activities shall cease within the 250-foot buffer.
- If the owls are gone from the burrows for at least 1 week, the project applicant may request approval from the habitat agency to excavate all usable burrows within the construction area to prevent owls from reoccupying the site. After all usable burrows are excavated, the buffer zone shall be removed, and construction may continue.

The project owner shall request approval from the Santa Clara Valley Habitat agency to excavate usable, unoccupied burrows within the project site during the non-breeding season.

BIO-6: In the event the voluntary relocation of site burrowing owls does not occur (defined as owls having vacated the site for 10 or more consecutive days), the project applicant can request permission to engage in passive relocation during the non-breeding season through the standard SCVHP application process (Section 6.8 of the SCVHP). If passive relocation is granted, additional measures may be required by the Habitat Agency.

- If the owls voluntarily vacate the site for 10 or more consecutive days, as documented by a qualified biologist, the project applicant could seek permission from the Santa Clara Valley Habitat Agency to have the qualified biologist take measures to collapse vacated and other suitable burrows to confirm that owls do not recolonize the site, in accordance with the SCVHP, by preparing a written request and submitting supporting documentation to the City Director or their designee.

BIO-7: Prior to the start of any grading or other soil disturbing activities, the project applicant shall be required to prepare a Stormwater Pollution Prevention Plan consistent with the City's National Pollutant Discharge Elimination System C3 provisions. The plan shall be submitted to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement.

BIO-8: A qualified biological monitor shall visit the project site daily during utility line construction in the vicinity of the wetland to verify that **BIO-7** through **BIO-11** are being fully implemented and are effective. Documentation shall be prepared by the biological monitor and made available to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement or the Santa Clara Valley Habitat Agency upon request.

BIO-9: Removal of wetland vegetation and/or trees for the installation of the utility line shall be limited to the minimum extent required. Documentation shall be prepared by the biological monitor and made available to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement or the Santa Clara Valley Habitat Agency upon request.

BIO-10: The project applicant shall verify that all seed mixtures used for revegetation of the impacted wetland area shall be locally native or sterile nonnative species only. No invasive non-native plant species shall be used for revegetation. Documentation shall be prepared by the biological monitor and made available to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement or the Santa Clara Valley Habitat Agency upon request.

BIO-11: The project applicant shall comply with all applicable laws and regulations regarding requirements of the California Department of Fish and Wildlife, United States Army Corps of Engineers, and the Regional Water Quality Control Board for aspects of the project, if any, which fall within those agencies' respective purview, including obtaining any permits required for the construction of the utility lines in the offsite infrastructure alignment areas, as well as compliance with any additional conditions attached to any required permits and monitoring requirements (if any). Copies of the permits, along with an updated Worker Environmental Awareness Program (if necessary per **BIO-13**) shall be available to the Director or their designee with the City of San Jose Department of Planning, Building and Code Enforcement and the Santa Clara Valley Habitat Agency upon request.

BIO-12: Prior to ground disturbance, the project applicant shall ensure that the project site, including linear alignments and the bike path have been surveyed by a certified arborist or biologist and prepare a report. The report, a Tree Protection Plan (TPP), shall be submitted to the Director or Director's designee with the City of San Jose Department of Planning, Building, and Code Enforcement for trees to be preserved. The TPP shall include, but is not limited to, the following:

- Number of trees and location of trees to be protected

- Final landscaping proposal
- Tree Protection Zone (TPZ)
- Size and location of TPZ
- Specific recommendation and suggestions or recommendation for each TPZ if applicable
- Maintenance methodology for tree protection zones during the entire demolition and construction period
- Irrigated schedule
- Pruning schedule for preserved trees, if applicable
- Herbicides and other products recommended to be used on preserved trees

BIO-13: A worker environmental awareness program biological resources module will be conducted for onsite construction personnel prior to the start of construction activities. The module will explain the measure and any other measures developed to prevent impacts on special-status species, including marsh species (saltmarsh common yellowthroat and salt marsh harvest mouse) and nesting birds. The module will also include a description of special-status species and their habitat needs, as well as an explanation of the status of these species and their protection under Endangered Species Act, California Endangered Species Act, and other statutes. A brochure will be provided with color photos of sensitive species, as well as a discussion of any permit measures. A copy of the program and brochure shall be provided for review and approval to Director or Director’s designee with the City of San Jose Department of Planning, Building and Code Enforcement and the Santa Clara Valley Habitat Agency at least 30 days prior to the start of construction for project files, and updated as necessary per **BIO-11**. This includes the following measures:

- Environmental Inspector: A qualified Environmental Inspector shall verify implementation and compliance with all mitigation measures. The Environmental Inspector shall have the authority to stop work or determine alternative work practices where safe to do so, as appropriate, if construction activities are likely to affect sensitive biological resources.
- Litter and Trash Management: Food scraps, wrappers, food containers, cans, bottles, and other trash from the project area shall be deposited into closed trash containers. Trash containers shall be removed from the project work areas at the end of each working day unless located in an existing substation, potential staging area, or the switching station site.
- Parking: Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed or developed areas, or work areas as identified in this document.
- Work Areas, Staging Areas: Work, staging, vehicle parking, and equipment parking areas shall be contained within the final areas that are negotiated with the relevant property owners, or as noted above.

- Wetland and Waters Avoidance: Wetlands and waters as identified in the Aquatic Resources Delineation Report shall be avoided during all work activities.
- Pets and Firearms: No pets or firearms shall be permitted at the project site.

BIO-14: An aquatic resources delineation covering the entire project area shall be conducted. All features that are determined to be jurisdictional under the resource agencies shall either be avoided, or the relevant permits shall be obtained for project impacts. Work shall not occur within these jurisdictional features until the relevant permits have been obtained. A delineation report shall be produced and made available to the Santa Clara Valley Habitat Agency and the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement.

BIO-15: Prior to any disturbance of the onsite wetland(s), the authorized biologist shall perform protocol-level surveys for the Congdon's tarplant, during appropriate blooming season. A report shall be prepared and provided to California Department of Fish and Wildlife, the Santa Clara Valley Habitat Agency, and the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement 30 days prior to any disturbance.

BIO-16: Pre-construction survey for San Francisco dusky-footed woodrats and ringtail avoidance.

1. A qualified biologist shall conduct a preconstruction survey for San Francisco dusky-footed woodrat nests and ringtail individuals no more than 30 days prior to the onset of construction activities within 50 feet of construction zones. This survey shall be conducted prior to vegetation removal or initial grading activities.
    a. Non-breeding season nest deconstruction for San Francisco dusky-footed woodrat: Identified nests of the San Francisco dusky-footed woodrat shall be avoided, where possible. If avoidance is not possible, the nest(s) shall be manually deconstructed under supervision of a qualified biologist when helpless young are not present, typically during the nonbreeding season (October through January).
    b. Breeding season temporary buffer for San Francisco dusky-footed woodrat: If it is determined that San Francisco dusky-footed woodrat young may be present during the pre-construction survey (e.g. during the breeding season), a suitable buffer shall be established around the nest until the young are independent enough to successfully move from the nest.
2. Avoidance of ringtail. If an individual ringtail is identified within the project site during preconstruction surveys, a follow-up survey shall be conducted within 12- hours of project initiation. If a ringtail is identified during the second survey, the project biologist shall continue to monitor the ringtail to ensure that the individual has moved out of any areas of potential danger of its own volition. Project activities can only commence once the project biologist has determined that the identified animal has moved outside of potential danger from project actions.

A report shall be prepared and provided to CDFW, the Santa Clara Valley Habitat Agency, and the City Director or their designee 30 days prior to any disturbance.

BIO-17: Temporary disturbance to and permanent loss of salt marsh harvest mouse habitat shall be avoided to the maximum extent practicable. Although avoidance of wetland impacts is described, further attempts to avoid impacts to potentially suitable habitat shall be made. Prior to the issuance of building permits, all temporary staging areas and construction access roads shall be located away from suitable habitat for this species and limits of all wetlands that are to be avoided shall be clearly demarcated by a qualified biologist with Environmentally Sensitive Area fencing to avoid inadvertent disturbance of any habitat outside of the designated construction areas during construction activities.

Prior to issuance of grading permits and under the supervision of a qualified biological monitor, a barrier to exclude salt marsh harvest mice from impact areas shall be installed at the perimeter of all project construction areas that are located within 50 feet of potential salt marsh harvest mouse, and checked weekly by the qualified biologist for any breaches, rips, or tears. This barrier, which shall be constructed under the guidance of a qualified biologist, shall consist of a 3-foot tall, tight cloth or smooth plastic silt fence toed into the soil at least three inches deep and supported with stakes.

Documentation of this mitigation measure shall be provided to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code enforcement 30 days prior to any disturbance, and made available to the Santa Clara Valley Habitat Agency upon request.

BIO-18: Pursuant to the 2012 Santa Clara Valley Habitat Plan (SCVHP) (Chapter 6 and Section 9, Table 9-7b), prior to any ground disturbance, a one-time fee payment for new daily vehicle trips shall be paid for mobile emission sources, as based on the appropriate fees and worksheet (year current to construction) in the 2020 SCVHP, or most recent Nitrogen Deposition Fee Worksheet. Fees are paid to the Santa Clara Valley Habitat Agency.

BIO-19: Prior to (and only if) the onsite wetlands are developed or impacted; mitigation fees pursuant to the Santa Clara Valley Habitat Plan Table 9-11 must be paid to the Director or Director's designee with the City of San Jose Department of Planning, Building and Code enforcement.

BIO-20: The project owner shall pay, before or at the time that the grading permit for the project is issued, temporary and permanent impact fees for loss of habitat onsite and along the project linears and road improvements, as necessary and appropriate for construction and temporary impacts. Currently, Fee Zone B, pursuant to SCVHA (202) is valued at $15,043 per acre, subject to updated fee calculations as available from the SCVHA.

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4.5 Cultural and Tribal Cultural Resources

This section describes the environmental setting and regulatory background and discusses the impacts associated with the construction and operation of the proposed 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.

4.5.1 Environmental Setting

This section assesses the potential impacts of the proposed project on cultural and tribal cultural resources. The 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 identified 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 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., or A.D. 1950) 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 (knees pulled up toward the chin) and placed beneath millingstone cairns. (Milliken et al. 2007, page 114).

This Early Holocene culture extended until the beginning of the Early Period (about 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 about 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 rather than flexed, and grave goods were lacking. (Milliken et al. 2007, page 116).

The Late Period began about 900 B.P., with groups increasing 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).

Archaeological research in the project vicinity reveals a rich and lengthy archaeological record. Archaeologists have found numerous buried Native American sites throughout the lower Santa Clara Valley. Coyote Creek and the Guadalupe River 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, pages 9, 12, 17–19). Additionally, the extent of the South Bay's salt marshes and mud flats fluctuated over time, burying indigenous archaeological resources under mud, or submerging them underwater.

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, pages 84, 89). The Costanoan languages are related 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 near 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 deposit (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 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 (in existence), but the area is still rich in archaeological manifestations from the mission period and before. (Levy 1978, page 486).

Historic Context

To inform understanding of the potential significance of built environment resources in the project vicinity, 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 and San José that provide that context for the project site:

- Spanish Mission Period
- Mexican Period
- American Period
    - Transportation and Railroads
    - Agriculture and Fruit Industry
    - Silicon Valley
    - Project Site History

Spanish/Mission Period (1769 to 1821)

The Spanish Period was characterized by several developments: 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) and El Pueblo de San José de Guadalupe (1777) and Mission (1797). 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 early transportation routes (Santa Clara 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 lands of the missions, whose connection to the government was lost in the Decree of Secularization in 1834. Spanish and Mexican governors granted 43 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 2012, pages 30–32). The project site is located within the boundaries of the land grant Rancho Rincon de los Esteros (Dean 2000, page 6; USGS 1899a). The County of 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 of them exist (Santa Clara 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 project area is within the Berryessa portion of the land grant Rancho Rincon de los Esteros. Claims against the Berryessa land grants were finally settled with patents to and Rafael Alviso (2,200 acres) and Francisco C. Berryessa (1,844 acres) in 1872 and 1873, respectively (BLM GLO 2020; Dean 2000, page 6).

Transportation and Railroads

In the late 1840s, the Port of Alviso was created from part of Rancho Rincon de los Esteros and the Embarcadero de Santa Clara Rancho of Bercelia Bernal-Martin. Alviso was incorporated in 1852. The port was connected to Steamboat Slough by a canal in 1858. The port provided quick access to the south bay area, especially for passengers on steamboats from San Francisco. At its peak, Alviso was the major commercial shipping depot in Northern California (CEC 2001, page 4.3-5). At that time, the only other means of transport from San Francisco to San José was by land. A stagecoach line transported passengers to the town of San José from the Port of Alviso (Dean 2000, pages 4–5).

Milpitas to the east began to take shape in 1856 with the construction of a post office. Milpitas experienced continuous growth in the ensuing years, due in part to its location on land transportation routes. This contributed to the decline of the port town of Alviso. However, the extension of the Southern Pacific Coast Railroad to Alviso in 1876 maintained the economic viability of the port town through the remaining years of the nineteenth century (Dean 2000, page 5; USGS 1899a).

Alviso-Milpitas Road likely came into existence as a dirt trail by the late 1850s, connecting the port at Alviso to Milpitas. In 1865, the roadbed was graded with an 8-foot wide ditch on each side, ostensibly providing drainage, extending from Coyote Creek on the eastern end to the Alviso-San José Road on the western end (Dean 2000, page 6). San José's North First Street follows the alignment of the Alviso-San José Road (Santa Clara 2012, page 25). Historic maps exhibit an alignment nearly identical to North First Street from San José to Alviso (USGS 1899).

In 1869, the Western Pacific Railroad completed a rail line from San José to Niles, California, effectively connecting San José 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 2012, page 44).

Senator James Fair, a multi-millionaire, envisioned a route from the east side of San Francisco Bay, south to San José, 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 José. Following that segment, the rail line extended 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 crossed the slough into Alviso from Niles and Newark to the north, passed adjacent to the eastern edge of the downtown grid of Santa Clara and into the heart of San José by 1899 (USGS 1899a, 1899b). The Southern Pacific Railroad, Monterey Division, is also on the 1899 USGS topographic map, extending from San José to Monterey. A 1915 USGS topographic map shows the routes of the entire Santa Cruz and Monterey divisions from San José through the Santa Cruz Mountains to Santa Cruz and Monterey and indicating a connection to Los Angeles (USGS 1915). None of the railroads connected directly to the project site, but these connections provided freight and passenger access to the South Bay and San José region.

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 World War II (WWII) originated from the valley. The agricultural base economy and its support operations were gradually displaced by expanding suburban development, light industrial uses, and high-tech research and development operations by the 1970s (Fike 2016, page 2).

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. Throughout the valley, residential home developments and commercial/industrial operations slowly replaced the orchards and agricultural fields. The landscape was forever transformed.

Silicon Valley

Industrial growth expanded significantly from 1960 to 1980, much of the growth in the electronics research and manufacturing sectors. The southern Silicon Valley cities of Santa Clara and San Jose are home to Adobe Systems Incorporated, Applied Materials, Cisco Systems, Intel, Paypal, Sun Microsystems, National Semiconductor, and other high technology companies.

Project Site

The project footprint, including all linears, construction laydown areas, and access routes, is located within the Alviso area of the City of San Jose, California. The main project site is bounded by Coyote Creek to the east, State Route (SR) 237 to the south, Los Esteros Critical Energy Facility (LECEF) and Pacific Gas and Electric Company's (PG&E's) Los Esteros substation to the west, and regional water treatment facilities and buffer lands to the north.

In 1876, a farmer-settler named William Boots accumulated over 650 acres of land in the area, including the proposed project site. His family residence was located off the site, just south of current SR 237. Boots cultivated fruit trees, vegetables, and berries on his expansive farm. Boots died in 1900, leaving behind his wife Mary and three surviving children, who continued at the farm (Alonso et al. 2019, page 16). The portion of the farm north of Alviso-Milpitas Road was conveyed to William Boots Jr. by Mary Boots, daughter Mary, and son Charles by 1906. The earliest structures on the farm are identified by 1895 when the USGS first surveyed the area and are visible on the 1899 USGS San Jose topographic map (USGS 1899a). These buildings are associated with the address 1591 Alviso-Milpitas Road. William Boots Jr. relocated to Oakland and consequently subdivided the farm, selling a portion to Victoriano Silveira in 1913, which is now the site of LECEF to the west of the project site. By 1922, he sold the remaining property to brothers Newton and Edgar Jackson. By 1927, Boots also conveyed to the Jacksons his easement on the Coyote Creek channel that had been condemned for public use by the County of Santa Clara in 1875. The Polk directory first lists Edgar and Gussie Jackson as residing on the property in 1930 when they built their house at 1657 Alviso-Milpitas Road.

By the 1940s, most of the property was planted in orchards. Edgar and Gussie Jackson moved from the farm to Saratoga during the mid-1950s. The farm was converted to row cops after the Jacksons' departure and their house at 1657 Alviso-Milpitas Road became a rental. The group of buildings at the center of the property, collectively known as 1591 Alviso-Milpitas Road, have historically been rentals or farmworker housing. Buildings and structures associated with the farming operations over time are located within this grouping as well.

The agricultural nature of the setting began to change in the 1970s, as properties in the area began to convert to industrial use. The area south of Alviso-Milpitas Road and SR 237 began development as part of the Rincon de los Esteros Redevelopment Area. The LECEF was licensed in 2002 and became operational in 2003 with a substation and appurtenant transmission facilities on the land that was owned by Victoriano Silveira. Construction of LECEF demolished the remnants of a large Chinese flower-growing complex built in the 1970s (CEC 2001, page 4.3-5; Maggi 2016, pages 4–6).

William Cilker Sr. purchased the subject property, Assessor's Parcel Number (APN) 015-31-054, in 1960. He maintained the orchards until the mid-1970s, when much of the farm was converted to row crops (CEG 2015, Appendix C, Aerial Photographs; Maggi 2016, page 5). Sometime around 1985, the Cilkers converted the farm to a "You-Pick" farm. The residence at 1657 Alviso-Milpitas Road was inhabited by a foreman on the farm from 1968 to 1970, then became a rental until William Cilker Jr. occupied the house in 1981. The sun porch was enclosed in 1980 and at that time a door on the west elevation was sealed off to create an additional bathroom inside (Dean 2000, page 11). The warehouse was constructed during the mid-1980s and replaced a prior barn (CEG 2015, page 19).

The Cilker farm was reduced in size from 79.07 acres to 66.46 acres, a loss of 12.61 acres to the Coyote Creek channelization. The Santa Clara Valley Water District (SCVWD) acquired the eastern acreage along the river during the early 1990s to facilitate levee construction as part of a Coyote Creek Flood Control Improvement Project (CEG 2015, page 7). The SCVWD parcel, APN 015-31-068, is shown as 12.61 acres on the assessor's map (Santa Clara County 2019–2020). This appears to be the acreage lost to the flood control project. The unincorporated area north of SR 237 where the project parcel is located was annexed to San José in 2001 as part of Lick No27 (Maggi 2016, page 5). The Cilkers owned the property until it was sold to the current owner on September 27, 2017 (Santa Clara County 2020).

Until June 2021, the site was comprised of the structures remaining from Cilker Orchards and farm, which was barren with only a residential and warehouse complex at the center and the former Cilker residence on the eastern boundary remaining. There were two residences located within the project site. They included the former Cilker residence at 1657 Alviso-Milpitas Road built in 1930, and 1591 Alviso-Milpitas Road, apparently built as early as 1895 and more certainly by 1899 (Maggi 2016, page 5; San Jose 2017, pages 113–116; USGS 1899a). 1657 Alviso-Milpitas Road is located near Coyote Creek on the eastern side of the property. 1591 Alviso-Milpitas Road is located within the former Cilker Orchard warehouse complex in the center of the property. The warehouse building was constructed during the mid-1980s, replacing an old wooden barn (CEG 2015, page 13). The two vacant residences and the storage shed/warehouse were demolished in 2021 after a fire substantially damaged and thus significantly affected the safety of one of the dwellings.

Project Linears

The project linears (electrical supply, natural gas, potable water, reclaimed water, sanitary sewer, and storm water lines) would pass through several nearby parcels. These include properties owned by Calpine, the City of San Jose, City of Santa Clara, and PG&E. Facilities on these parcels include water treatment, electric power generation, and electrical transmission. Much of the area is open land with no structures. Project pipelines would extend from the project site north of PG&E's substation, travel along Thomas Foon Chew Way and Nortech Extension, cross Zanker Road, and, under one of the potable water alternatives, potentially cross under SR 237. The electrical supply line will connect underground directly from the project site to the PG&E substation on the western boundary. The natural gas lines would connect to the project site directly from PG&E pipelines under Alviso-Milpitas Road.

Bicycle Trail Extension and Roadway Improvements

The proposed project includes the extension of a Class I improved trail along the east side of Zanker Road from intersection of the existing bike trail at Zanker Road to the new Nortech Parkway extension in order to provide a trail connection to the Coyote Creek Trail. The project would construct a raised median island along Zanker Road between the new Nortech Parkway extension and the SR 237 westbound off-ramp.

Methods

The methods employed for the cultural resources analysis include determining a Project Area of Analysis (PAA), reviewing records and other documents provided by a literature search and other historical sources as needed; consultation with California Native American tribes; and historic architectural and archaeological surveys.

Project Area of Analysis

The 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. The PAA has archaeological, ethnographic, and historic built environment components, as described in the following paragraphs.

Staff defines the archaeological component of the PAA as all areas where the applicant proposes ground disturbance to construct, operate, and decommission the proposed project. This includes the proposed building sites, demolition, parking, landscaping, areas to be graded, staging and laydown areas, access roads, perimeter fence, sanitary pump station, electrical substation, bicycle trail extension, tree removal, subsurface drainage, electrical supply line, sanitary sewer line, reclaimed water line and potable water line. The application describes estimated excavation depths for the proposed project elements:

- Proposed data center building sites, 35–65 feet below ground surface
- Electrical supply line, sanitary sewer line, reclaimed water line, and potable water line, up to 15 feet below ground surface (Jacobs 2019a, Figure 2-7; Jacobs 2020d, pages 3 and 6)

- Natural gas lines (2) approximately seventy-five feet in length at unspecified depth (Jacobs 2021o, pages 2-3 to 2-4)

For ethnographic resources, the PAA considers 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 regional wastewater facilities and related open buffer lands, an electric power plant and substation, office parks, industrial structures, a channelized creek, a freeway, and a vacant lot. Staff therefore treats the ethnographic component of the PAA as the same as the archaeological component.

The proposed project site consists primarily of fallow agricultural fields, moderate amounts of pavement and gravel surfaces, and modest landscape elements including mature trees at both residential home sites. Proposed linear features would pass through open fields and within the rights-of-way of several roads. The historic built environment PAA for this project includes properties extending one parcel from the project site and linear routes for a total of nine parcels.

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, and examination of pertinent literature concerning cultural resources in the northern Santa Clara Valley.

On behalf of the applicant, PaleoWest Archaeology (PaleoWest) conducted a records search on May 23, 2019, at the Northwest Information Center (NWIC) of the CHRIS. 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 project site and a 1-mile buffer (Alsonso et al. 2019, page iii; Jacobs 2019a, page 3.5-6). In addition to the NWIC’s maps of known cultural resources and previous cultural resources studies, the records search included a review of the National Register of Historic Places (NRHP), OHP’s Archaeological Determinations of Eligibility, and OHP’s Directory of Properties in the Historic Property Data File (Alonso et al. 2019, page 20).

In addition, California Energy Commission (CEC) staff examined historic maps and aerial photographs of the PAA and vicinity to identify cultural resources (Busby 2004, Figures

5–6[3]; CEG 2015, Appendix C[4]; Edward Denny & Co. 1913; GLO 1866; USGS 1897, 1899a, 1899b, 1961, 1980). These sources depict the historic appearance of the PAA each decade from 1862 through 1980 (excepting the 1880s, 1900s, 1910s, and 1920s).

Staff also consulted the NRHP, CRHR, Historic American Building Survey, Historic American Engineering Record, Historic American Landscape Survey, the City of San Jose Historic Resource Inventory (San Jose 2009, pages 42–54), County of Santa Clara Historic Context Statement (Santa Clara 2012) and other repositories of documentation of historical resources, including internal CEC files.

Tribal Consultation

Applicant's Correspondence

PaleoWest, on behalf of the applicant, contacted the NAHC on May 29, 2019, to request a search of the Sacred Lands File and a list of tribes that might be interested in the proposed project. The NAHC responded on June 17, 2019, and provided a list of six California Native American tribes to contact:

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

PaleoWest sent letters to these tribes on July 9, 2019, and placed follow-up phone calls on July 15 and 22, 2019. (Jacobs 2019a, page 3.18-4, Table 3.18-1).

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 are traditionally and culturally affiliated. (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.

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3 This source contains reproductions of maps dating to 1866 and 1876.
4 This source contains historic topographic maps and aerial photographs dated approximately 1899, 1939, 1948, 1950, 1953, 1956, 1961, 1966, 1968, 1973, and 1974.

However, consistent with the CEC's tribal consultation policy (CEC 2017), CEC staff contacted the NAHC on November 26, 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 January 15, 2020 and provided a list of six California Native American tribes to contact; the listed tribes were the same six tribes with whom the applicant corresponded. CEC staff mailed initial consultation letters to these six tribes on December 17, 2019 (CEC 2019). Staff mailed additional consultation letters to these tribes on September 30, 2021, to apprise them of the applicant's switch to natural gas-fired generators and the addition of two 75-foot-long pipelines to connect to existing natural gas supply (see Jacobs 2021o, pages 2-3 to 2-4; CEC 2021). See the following subsection, "Results," for tribal responses and lead agency follow-up.

Archaeological Survey

On July 16, 2019, a PaleoWest archaeologist surveyed the following area, which corresponds to the staff-defined archaeological PAA (Alonso et al. 2019, page 22):

- project site and a 200-foot buffer surrounding "project elements"
- proposed project linear facility routes and an area 50 feet to either side of the linears.

Portions of the proposed linears were not accessible to the archaeological surveyor, such that only the portions along Zanker Road and the southernmost linears were examined. (Jacobs 2019a, page 3.5-6, Figure 3.5-1). The archaeologist surveyed accessible portions of the proposed project by walking parallel transects spaced at 33–50-foot intervals and observing the ground surface (Alonso et al. 2019, page 22, Figure 3).

The applicant's consultant, Jacobs, surveyed the previously inaccessible sections of the proposed linears for cultural resources on December 8, 2020. Professionally qualified cultural resources specialists surveyed the proposed linears by walking parallel transects spaced 33 feet apart along the proposed utility routes. The survey encompassed a 100-feet-wide corridor along the proposed linears. The survey included examination of the ground surface, all cut-bank exposures, and local topography. The surveyors also noted and documented indications of historical and modern development. The surveyors also photographed the conditions encountered in the field. (Jacobs 2021a, Attachment DR-19, page 5).

Historic Architectural Survey

The historic architectural survey was conducted by staff of PaleoWest Archaeology on July 16, 2019, inclusive of the project site and extending one-parcel from the proposed project boundaries and along the routes of all linear facilities. The architectural survey area included nine parcels in the project area (Alonso et al. 2019, Figure 3). Except for the two collections of historic-age structures on the project site itself, no other resources were identified that are 45 years or older in the survey area. Any building or structure constructed before 1974 or potentially eligible for the CRHR or local register was evaluated on Department of Parks and Recreation 523 series forms (Alonso et al. 2019, Appendix D).

Staff Site Visit

CEC cultural resources staff completed a site visit to the project site on February 13, 2020, to confirm the reported conditions in the PAA. Staff accessed the primary project site and conducted a windshield survey of the linear routes from outside the property boundaries. No site access was available for most of the linear routes.

Results

Literature Review

The NWIC records search indicates that 261 previous cultural resources studies occurred within 1 mile of the project site. Of these, 45 cover all or part of the PAA. (Alonso et al. 2019, Appendix A: Tables 1–2; Jacobs 2019a, page 3.5-6). The NWIC has two records of previously recorded cultural resources on the project site, and documents 34 previously recorded cultural resources within the 1-mile records search buffer (**Table 4.5-1**, **4.5-2**). Twelve of the previously recorded cultural resources are archaeological sites, whereas 22 of the resources are historic built environment resources. (Jacobs 2019a, page. 3.5-6, Tables 3.5-1, 3.5-2). Four previously recorded built environment cultural resources were identified in the PAA (**Table 4.5-3**). Two of these resources are no longer extant and the other two are located on the primary project site.

TABLE 4.5-1 PREHISTORIC AND ETHNOGRAPHIC RESOURCES 45 YEARS OR OLDER WITHIN ONE MILE OF THE SAN JOSE DATA CENTER PROJECT SITE (PROJECT STUDY AREA)

No.	Primary Number/Trinomial	Resource Name	Age	Type
1.	P-41-000409/ CA-SMA-000299	Colma Creek	Prehistoric	Site
2.	P-41-000495/ CA-SMA-000355	Colma Creek/Chestnut	Prehistoric	Site
3.	P-43-000025/ CA-SCL-000005	Nelson 339	Prehistoric	Site
4.	P-43-000026/ CA-SCL-000006	Marcello's Enclosure	Prehistoric	Site
5.	P-43-000277/ CA-SCL-000268/H	4-SCL-268	Prehistoric, Historic	Site
6.	P-43-000448/ CA-SCL-000447/H	formerly known as CA-SCL-6E	Prehistoric, Historic	Site
7.	P-43-000486/ CA-SCL-000485	[none]	Prehistoric	Site
8.	P-43-000529/ CA-SCL-000528	Nolte #1	Prehistoric	Site
9.	P-43-000623/ CA-SCL-000675	"Coyote Creek Site"	Prehistoric	Site
10.	P-43-000624/ CA-SCL-000677	The 237/880 Site	Prehistoric	Site
11.	P-43-001060/ CA-SCL-000678	ARCO Burials	Prehistoric	Site
12.	P-43-003145	EB6 Oyster Shell	Prehistoric	Site

Notes: SCL = Santa Clara County; SMA = San Mateo County

TABLE 4.5-2 BUILT ENVIRONMENT RESOURCES 45 YEARS OR OLDER WITHIN ONE MILE OF THE SAN JOSE DATA CENTER PROJECT SITE (PROJECT STUDY AREA)

No.	Address	Resource Name/ APN	Description, Year	Eligibility Status
1.	1500 Barber Lane	086-01-018, 086-01-019	c.1861 –1940	3S (recommended eligible based on survey-no longer extant)
2.	Magnolia Drive (no address)	086-02-077, 086-02-072, 086-02-068, 086-02-067	c. 1920	6Z (not eligible)
3.	Barber Lane (no address)	086-02-091	c. 1945	6Z (not eligible)
4.	Barber Lane (no address)	086-02-091	c. 1930–1940s	6Z (not eligible)
5.	701 S. Abel Street	086-05-025	Range of ages	6Z (not eligible)
6.	783 Milpitas – Alviso Road	22-54-009	c. 1920–1950	6Z (not eligible)
7.	Alviso – Milpitas Road (no address)	22-90-026	c. 1950–1980s	6Z (not eligible)
8.	Alviso – Milpitas Road (no address)	22-54-020	c. 1975	6Z (not eligible)
9.	4271 North First Street	097-01-027, 097-50-001, 097-01-028, 097-02-042, 097-02-026	c. 1925	6Z (not eligible)
10.	Milpitas Alviso Road (eastern end)	22-54-017	c. 1915	6Z (not eligible)
11.	Milpitas Alviso Road (eastern end)	22-56-009	c. 1970s	6Z (not eligible)
12.	Milpitas Alviso Road (eastern end)	22-56-009	c. 1970s	6Z (not eligible)
13.	Northeast Corner of First Street and SR 237	15-30-104	c. 1984	6Z (not eligible)
14.	3990 Zanker Road	097-04-020	c. 1982	6Z (not eligible)
15.	SR 237 near Barber Lane	N/A	c. 1978	6Z (not eligible)
16.	Horizon Circle	15-34-043	c. 1980	6Z (not eligible)
17.	SR 237 and North First Street	N/A	c. 1929	6Z (not eligible)
18.	Alviso – Milpitas Road (no address)	15-30-099	c. 1920	6Z (not eligible)
19.	775 Barber Lane	N/A	c. 1988	6Z (not eligible)
20.	Boots Road	N/A	c. 1920	6Z (not eligible)
21.	3544 N. First Street	97-07-003	1885	6Z (not eligible)
22.	700 Los Esteros Road	San Jose-Santa Clara Regional Wastewater Facility/15-31-024	1956	3D (recommended eligible)

Notes: APN = Assessor’s Parcel Number, SR = State Route

TABLE 4.5-3 BUILT ENVIRONMENT RESOURCES 45 YEARS OR OLDER WITHIN THE PAA OF THE SAN JOSE DATA CENTER PROJECT SITE (PROJECT AREA OF ANALYSIS-ONE PARCEL BOUNDARY)

Address	APN	Year Built	Description
1515 Alviso – Milpitas Road	015-31-072	c. 1980	No longer extant
1591 Alviso – Milpitas Road	015-31-054	c. 1895–1920	Vernacular-style house and farm structures-no longer extant
1625 Alviso – Milpitas Road	N/A	c. 1930	No longer extant
1657 Alviso – Milpitas Road	015-31-054	c. 1930	One-story Craftsman- Prairie- Mission Revival-style house-no longer extant

Note: APN = assessor's parcel number

1591 and 1657 Alviso-Milpitas Road

The resources at 1591 and 1657 Alviso-Milpitas Road have been evaluated four times for various proposed projects. The initial evaluations in 1985 were prepared by Gregory King (King 1985a, 1985b) for California Department of Transportation, District 4, as part of a survey for highway improvements. King found the resources not eligible for listing on the NRHP. The resources were re-evaluated by Randall Dean for the US DataPort project in 2000 (Dean 2000) and were found not eligible for the CRHR or the San Jose Register. For the environmental impact report (EIR) supporting the zoning change and the 237 Industrial Center Project, the resources were evaluated by Franklin Maggi and found not eligible for the CRHR and the San Jose Register. Maggi did depart from the other evaluators by concluding that the residence at 1657 Alviso-Milpitas Road would qualify as a Structure of Merit on the San Jose Register (Maggi 2016). However, the EIR concluded that this determination did not make it an historical resource under CEQA, and that demolition of the structure would have a less than significant impact on historic structures (San Jose 2017, page 120). The City Council adopted the EIR on December 12, 2017, Ordinance Number 30023. The final evaluation of the resources was completed by PaleoWest in 2019 for the current project. PaleoWest concluded that the resources are not eligible for the CRHR, and the residence at 1657 Alviso-Milpitas Road is not eligible as a Structure of Merit for the San Jose Historic Resources Inventory (Alonso et al. 2019, pages 25–26).

Based upon observations during a site visit on February 13, 2020, CEC cultural resources staff concurs with the applicant that the resources are recommended as not eligible for listing on the NRHP, CRHR, or San Jose Historic Resources Inventory under any criteria. The two vacant residences and the storage shed/warehouse were demolished in 2021 after a fire substantially damaged and thus significantly affected the safety of one of the dwellings (Jacobs 2021o, page 2-21).

Tribal Consultation

Applicant's Correspondence

The applicant's June 17, 2019, search of the Sacred Lands File returned positive results, indicating the presence of Native American cultural resources in the search area (Jacobs 2019a, page 3.18-4). In summary, the tribal responses to PaleoWest's outreach ranged from declining to comment on the proposed project to requests for documentation, site visit, and consultation with the lead agency: one tribe did not respond to PaleoWest, one tribe declined to comment stating that the proposed project was outside of traditional territory, two tribes requested that Native American monitors be present, one tribe requested that an archaeological monitor be present, one tribe requested cultural resources awareness training, two tribes requested the cultural resources records search for the proposed project, and one tribe requested official consultation with the lead agency and site visits of the proposed project area. (Jacobs 2019a, Table 3.18-1).

CEC Consultation

Staff's January 15, 2020, search of the Sacred Lands File returned positive results, indicating the presence of Native American cultural resources in the search area. Staff sent out letters with a brief description of the proposed project and invited consultation to the six California Native American Tribes listed by the NAHC on December 17, 2019 and follow-up letters on September 30, 2021 (CEC 2019, 2021). One tribe requested cultural resources sensitivity training for workers, two tribes requested Native American monitors, and one tribe requested additional documentation, consultation, and a face-to-face site visit. Documentation was provided, however, because of the COVID-19 pandemic, a face-to-face visit was not possible. Staff suggested setting up video conference but did not receive responses to further inquiries.

Archaeological Surveys

The archaeological surveys did not identify archaeological or ethnographic resources in the surveyed area (Alonso et al. 2019, pages 24–25; Jacobs 2019a, page 3.5-11; Jacobs 2021a, Attachment DR-19, page 10).

Historic Architectural Survey

The only buildings or structures found to be 45 years or older in the PAA were the two buildings located on the main project site at 1591 and 1657 Alviso-Milpitas Road. PaleoWest evaluated the buildings for their potential as historical resources by applying the criteria for the CRHR and the local register. The buildings were recommended not eligible under criteria 1–4 of the CRHR and the criteria of the local register (Alonso et al. 2020, pages 25–26; Jacobs 2019a, page 3.5-10). The residences and structures at 1591 and 1657 Alviso-Milpitas Road were demolished in 2021 after a fire had impacted the safety of one of the buildings. There are no historical built environment resources of any category identified by the City of San Jose within a mile of the project (San Jose 2009, Figures 7A, 10, and 11). No additional historic built environment resources have been identified within the PAA.

Archaeological Sensitivity

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). The NWIC records search documents eight archaeological monitoring or test-excavation reports in or near the PAA.

Of these, three reports identified buried archaeological resources at depths ranging from 0.2 to 2.7 feet below ground surface. The depth at which Busby (1999) identified archaeological materials was not reported (**Table 4.5-4**).

TABLE 4.5-4 RESULTS OF ARCHAEOLOGICAL MONITORING AND TESTING IN THE PROJECT VICINITY

Author/Year	NWIC #	Surface Sensitivity	Buried Sensitivity	Discoveries
Cartier 1983	S-006015	Moderate	Moderate and High	None
Cartier 1984	S-006538	Moderate	Moderate and High	None
Busby 1999	S-019072b	Moderate and high	Moderate and High	FAR and baked clay; historic refuse, animal bones, structural material (roofing), and streetcar tracks
Busby 2004	N/A	Moderate and High	Moderate and High	None
Reese 2010	S-037746	Moderate	Moderate and High	One California horn snail shell; one animal bone, scattered charcoal, one possible FAR, concrete fragments; sparse animal bone and shell, as well as historic glass, brick, ceramic, and concrete (0.2–1.0 ft bgs)
ICF Jones & Stokes 2010	S-037096	Moderate	Very High and High	Fragment of California horn snail shell (1.1–2.7 ft bgs); fragment of freshwater mussel shell (1.4 ft bgs)
Whitaker and Kaijankoski 2014	S-046337b	High	High	None
Koenig 2016	S-048562a	Moderate	Moderate and High	None

Notes and abbreviations: bgs = below ground surface; ft = foot, feet; FAR = fire-affected rock; NWIC = Northwest Information Center
Surface sensitivity per Byrd et al. (2017, Figure 26)
Buried sensitivity per Byrd et al. (2017, Figure 27) and Whitaker and Kaijankoski (2014, Figure 4)

Regulatory Background

Federal

No federal regulations related to cultural and 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 reduce 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)).

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. In addition to being at least 50 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 are considered unique archaeological resources if it can be clearly demonstrated 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 affected historical resource(s);
- the specific historic significances 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 for consultation with California Native American tribes about tribal cultural resources within specific timeframes, observant of tribal confidentiality, and if tribal cultural resources could be impacted by a CEQA project, 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 San Jose General Plan. Historical and cultural resources are addressed in LU-13 thru LU-16 in Historic Preservation Chapter 6: Land Use and Transportation of the *Envision San Jose 2040 General Plan*. The primary General Plan goal is to preserve historically and archaeologically significant structures, sites, districts, and artifacts in order to promote a greater sense of historical awareness and community identity, contribute to a sense of place, raise public awareness, encourage sustainable practices through preservation and enhance the quality of urban living (San Jose 2020).

City of San Jose Municipal Code. As a Certified Local Government, the City of San Jose has the authority from the Office of Historic Preservation to develop and maintain its own historical preservation program (Title 13, Chapter 13.48, Historic Preservation, Sections 13.48.010 through 13.48.660). According to the City's Historic Preservation Ordinance (Municipal Code Chapter 13.48), the City of San Jose is authorized to maintain an inventory of historical resources, establish a historical landmarks commission, preserve historical properties using landmark designation process, require historical preservation permits for additions or alterations to City Landmarks or buildings within City Historic Districts, and to provide financial incentives through the Historic Property Contracts program (San Jose 2021).

The City of San Jose maintains a register of City Landmarks, Historic Districts, and Structures of Merit. The City of San Jose's Historic Preservation Ordinance defines a resource as a City Landmark if it falls into one of the following four categories of structure:

1. An individual structure or portion thereof
2. An integrated group of structures on a single lot
3. A site, or portion thereof
4. Any combination thereof (San Jose 2021, Sec. 13.48.020.C)

The landmark designation process itself requires that findings be made that proposed landmarks have special "historical, architectural, cultural, aesthetic, or engineering interest or value of an historical nature", and that designation as a landmark conforms to the goals and polices of the General Plan. The following eight factors can be considered to make those findings among other relevant factors:

1. Its character, interest or value as a part of the local, regional, state or national history, heritage, or culture
2. Its location as a site of a significant historical event
3. Its identification with a person or persons who significantly contributed to the local, regional, state or national culture and history
4. Its exemplification of the cultural, economic, social, or historical heritage of the City of San Jose
5. Its portrayal of the environment of a group of people in an era of history characterized by a distinctive architectural style
6. Its embodiment of distinguishing characteristics of an architectural type or specimen
7. Its identification as the work of an architect or master builder whose individual work has influenced the development of the City of San Jose
8. Its embodiment of elements of architectural or engineering design, detail, materials, or craftsmanship which represents a significant architectural innovation or which is unique (San Jose 2021, Sec. 13.48.110 H).

San Jose Revised Guidelines for Historic Reports. Evaluation of potential City Landmarks is conducted based on both the subjective criteria listed in the Historic Preservation Ordinance and on a numerical tally system that scores structures based on visual quality or design; history and association; environment and context; integrity; reversibility; interior quality and conditions; and NRHP/CRHR status. A points-based scoring system is used; scores over 33 suggest that the building should be evaluated for City Landmark status or the CRHR (San Jose 2010).

Alviso Master Plan. The *Alviso Master Plan* includes policies applicable to all development projects within the plan area. Three policies are specific to cultural resources and historic preservation within the plan area. The policies are intended to enhance the preservation of the historic character of the community in the historic core (San Jose 2016, pages 41–43).

Historical resources identified within the plan area are identified on Alviso Master Plan Figure 4. These resources are all located within the National Register Historic District village core approximately 2.5 miles west of the project site (San Jose 2016, page 9). The project site and PAA do not include any identified historical resources that would be subject to the policies of the Alviso Master Plan.

4.5.2 Environmental Impacts

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 with Mitigation Incorporated. No historic built environment resources meeting CEQA's criteria for historical resources are 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 adjacent to Coyote Creek and about 12 former waterways. Three previous studies have identified no fewer than three buried archaeological deposits in or near the PAA at depths of 0.2–2.7 feet below the ground surface (see **Table 4.5-4**). Archaeologists working independently of the present analysis have estimated the PAA's likelihood to contain buried archaeological resources as moderate to very high (Byrd et al. 2017, Figures 26–27; Rehor and Kubal 2014, Figure 6-1; Whitaker and Kaijankoski 2014, Figure 4).

The ground disturbance required to build the proposed project would extend into native soils up to 65 feet below grade. Known buried archaeological sites in Santa Clara Valley range in age from 295 to 5630 B.P. (or A.D. 1950) and are located at depths of 0.2–10.5 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 proposed several measures to reduce potential impacts to buried, as-yet-undiscovered historical resources. Staff evaluated these measures in the context of the potential impacts and concludes that these measures are sufficient in most respects to reduce impacts. The measures include protocols for workforce education about cultural resources recognition, provisions for archaeological testing and monitoring, treatment of discoveries, and reporting. However, there are no provisions for the participation of cultural monitors from California Native American tribes, with the exception of cases of a human remains discovery. Since California Native American archaeological resources are the sort of cultural resource that ground disturbance could encounter in the archaeological PAA, tribal cultural monitors should be involved. In addition, two California Native American tribes familiar with cultural resource issues in the project vicinity requested that Native American monitors observe construction to ensure appropriate identification and treatment of Native American resources. Staff has added requirements that define the qualifications for California Native American monitors and their role in monitoring.

Staff proposes mitigation requiring worker awareness program and use of qualified archaeologists and Native American monitors (**CUL-1**), subsurface testing protocols (**CUL-2**), treatment plan for data recovered (**CUL-3**), required evaluation and handling of all prehistoric and historic-era features identified during exploration (**CUL-4**), procedures for the event that prehistoric or historic resources are encountered during excavation and/or grading of the site (**CUL-5**) and procedures for the event that human remains are discovered (**CUL-6**) to reduce impacts to buried historical resources. Staff concludes that with implementation of **CUL-1** through **CUL-6** impacts to buried historical resources would be reduced to a less than significant level.

Operation

No Impact. Ground-disturbing activities are not part of the operational or maintenance profile of the proposed project. Impacts on historical resources are therefore not expectable during operation and maintenance.

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 with Mitigation Incorporated. See the response to CEQA checklist criterion "a" above, which includes a discussion of historic, archaeological, and ethnographic resources. Implementation of **CUL-1** through **CUL- 6** would reduce impacts on buried, unique archaeological resources to a less than significant level.

Operation

No Impact. Ground-disturbing activities are not part of the operational or maintenance profile of the proposed project. Impacts on unique archaeological resources are therefore not expectable during operation and maintenance.

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

Construction

Less Than Significant with Mitigation Incorporated. See the response to CEQA checklist criterion "a" above, which includes a discussion of historic, archaeological, and ethnographic resources (all of which could include human remains). **CUL-1** through **CUL-5** would reduce impacts on buried human remains to a less than significant level.

Operation

No Impact. Ground-disturbing activities are not part of the operational profile of the proposed project. Impacts on human remains are therefore not expectable during operation and maintenance.

Tribal Cultural Resources CEQA Checklist Questions

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, *and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

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

No Impact. Ground-disturbing activities are not part of the operational 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. 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 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 with Mitigation Incorporated. 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 **CUL-1** through **CUL-6** would reduce impacts on buried, tribal cultural resources to a less than significant level.

Operation and Maintenance

No Impact. Ground-disturbing activities are not part of the operational 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 are therefore not expectable during operation and maintenance.

4.5.3 Mitigation Measures

CUL-1: Prior to the commencement of construction, the applicant will secure the services of qualified archaeological specialists and Native American monitors. These specialists and monitors will prepare a WEAP [workforce environmental awareness program] to instruct construction workers of the obligation to protect and preserve valuable archaeological and Native American resources for review and approval by the Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement (PBCE). This program will be provided to all construction workers via a recorded presentation and will include a discussion of applicable laws and penalties under the laws; samples or visual aids of resources that could be encountered in the project vicinity; instructions regarding the need to halt work in the vicinity of any potential archaeological and Native American resources encountered; and measures to notify their supervisor, the applicant, and the specialists. Submit the qualifications of archaeological specialists and Native American monitors, as well as an electronic copy of the WEAP to the Director or Director's designee of the City of San Jose PBCE for review and approval.

The applicant will secure the services of a Native American monitor to observe grading of native soil once all pavement is removed from the project site. 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.

CUL-2: Prior to the issuance of any grading permit, the project will be required to complete subsurface testing to determine the extent of possible resources onsite. Subsurface testing shall be completed by a qualified archaeologist. Based on the findings of the subsurface testing, an archaeological resources treatment plan shall be prepared by a qualified archaeologist and submitted to Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement for approval prior to the issuance of grading permits.

CUL-3: Prior to ground disturbance, the project will implement the approved treatment plan prior to the issuance of grading permits. The approved treatment plan will utilize data recovery methods to reduce impacts on subsurface resources.

CUL-4: All prehistoric and historic-era features identified during exploration will be evaluated by a qualified archaeologist based on the California Register of Historical Resources criteria consistent with the archaeological treatment plan. After completion of the field work, all artifacts will be cataloged, and the appropriate forms will be completed and filed with the Northwest Information Center of the California Archaeological Inventory at Sonoma State University by the qualified archaeologist in coordination with the Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement prior to issuance of occupancy permits (temporary or final).

CUL-5: In the event that prehistoric or historic resources are encountered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped, the Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement (PBCE) shall be notified, and a qualified archaeologist will examine the find. The archaeologist will evaluate the find(s) to determine if they meet the definition of a historical, archaeological, or tribal cultural resource and make appropriate recommendations regarding the disposition of such finds prior to issuance of building permits for any construction occurring within the above-referenced 50-foot radius. If the finds do not meet the definition of a historical, archaeological, or tribal cultural resources, no further study or protection is necessary prior to project implementation. If the find(s) does meet the definition of a historical, archaeological, or tribal cultural resource, then it will be avoided by project activities. If avoidance is not feasible, adverse effects to such resources will be mitigated in accordance with the recommendations of the archaeologist. Recommendations will include collection, recordation, and analysis of any significant cultural materials. A report of findings documenting any data recovery shall be submitted to the Director or Director's designee of the City of San Jose PBCE, NAHC (tribal cultural resources) and the Northwest Information Center.

The project applicant will ensure that construction personnel do not collect or move any cultural material and will ensure that any fill soils that may be used for construction purposes does not contain any archaeological materials.

CUL-6: In the event that human remains are discovered during 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 shall be notified immediately and will 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 shall notify the Native American Heritage Commission (NAHC) within 24 hours of the identification. Once the NAHC identifies the most likely descendants (MLD), the descendants will make recommendations regarding proper burial (including the treatment of grave goods), which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines. The archaeologist will recover scientifically-valuable information, as appropriate and in accordance with the recommendations of the MLD. A report of findings documenting any data recovery shall be submitted to the Director or Director's designee of the City of San Jose Department of Planning, Building and Code Enforcement and the Northwest Information Center.

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4.6 Energy and Energy Resources

This section describes the environmental setting and regulatory background and discusses impacts associated with the construction and operation of the project specific to energy and energy resources[1].

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

4.6.1 Environmental Setting

The Energy Commission makes findings as to whether energy use by a project would cause significant adverse impacts on the environment, as defined in the California Environmental Quality Act, Appendix F. If the Energy Commission finds that consumption of energy by a project would create a significant adverse impact, it must further determine if feasible mitigation measures implemented by the project would eliminate or minimize that impact.

The project would consist of two data center buildings which would include a total of 224 natural gas fired internal combustion engine generators (ICEs), rated at 0.45 MW, and two administrative Tier 4 diesel fired generators (gensets), rated at 1.5 MW and 0.5 MW. The northern building (SJC02) would consist of 140 standby ICEs and one 1.5 MW Tier 4 genset. The southern building (SJC03) would consist of 84 standby ICEs and one 0.5 MW Tier 4 genset. The project has been designed with eight colocation units (colos) with supporting amenities, with five colos for the northern building and three for the southern building. The ICEs would be deployed in redundant configuration (4-to-make-3 design configuration, meaning the ICEs would not operate at the same time at 100 percent) and would be used to provide backup power supply to support an uninterruptible power supply exclusively for the information technology (IT) and cooling loads. Additionally, the two diesel-fired standby gensets, one for the northern building and the other for the southern building, would be used to support essential systems (fire monitoring and other emergency operations) (Jacobs 2021o, Section 2). The ICEs would serve the data center during times when electric service delivered by Pacific Gas and Electric Company (PG&E) is interrupted or to support the grid for load shedding, demand response and behind-the-

1 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

meter Resource Adequacy capabilities. The backup generators would be electrically isolated from the PG&E electrical transmission grid with no means to deliver electricity offsite.

The 224 IT load standby ICEs would each be packaged by Enchanted Rock's 21.9-liter natural gas engines with a peak rated output capacity of 0.45 MW and a continuous steady-state (75 percent) output capacity of 0.34 MW, would have a natural gas fuel consumption rate of 5,204 cubic feet per hour (ft^3/hour) at full load. The two administrative standby gensets would be Tier 4 Caterpillar Model 3512C and Cummins Model QSX15, with peak rated output of 1.25 MW and 500 kW, respectively, and a diesel fuel consumption rate of 92.3 gal/hour and 34.4 gal/hour, respectively. Staff has verified the output capacity of these generators (Jacobs 2021o, Section 3.3.3.2). The peak electrical load requirement of the project would be 99 MW, which includes the electrical power load of the IT servers, the cooling load of the data center/administrative building, in addition to the facility's ancillary loads (Jacobs 2021y, TN 240082). In addition, the applicant would stipulate in agreement with the utility to a contractual limit in amount of electricity from PG&E's system limited to a maximum of 99 MW (Jacobs 2021o, Section 1.0). See **Section 3.0 Project Description** for further information. For the purposes of testing and maintenance, only one generator would run 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 infrastructure.

Senate Bill 100 (SB 100) — Senate Bill (SB) 100 requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt-hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. The bill also declares that the Public Utilities Commission, California Energy Commission, and State Air Resources Board should utilize programs authorized under existing statues to meet state policy goal of 100 percent of total retail sales of electricity in California provide by eligible renewable energy resources and zero-carbon resources by December 31, 2045.

This requirement applies to San Jose Clean Energy (SJCE), which would be the primary source of electricity supply for the data center.

Local

City of San Jose General Plan. *Envision San Jose 2040 General Plan* was adopted by the City Council in November 2011, amended in December 2018, and updated on March 16, 2020. The city's progress towards achieving key goals is evaluated every four years. Applicable *Envision San Jose 2040 General Plan* Policies and Actions regarding energy are detailed in Chapter 3 – Environmental Leadership guidelines of this general plan and are summarized below:

- MS-2.1: Develop and maintain policies, zoning regulations, and guidelines that require energy conservation and use of renewable energy sources.
- MS-2.2: Encourage maximized use of on-site generation of renewable energy for all new and existing buildings.
- MS-2.3: Utilize solar orientation (i.e., building placement), landscaping, design, and construction techniques for new construction to minimize energy consumption.
- MS-2.4: Promote energy efficient construction practices.
- MS-2.6: Promote roofing design and surface treatments that reduce the heat island effect of new and existing development and support reduced energy use, reduced air pollution, and a healthy urban forest. Connect businesses and residents with cool roof rebate programs through the city's outreach efforts.
- MS-2.7: Encourage the installation of solar panels or other clean energy power generation sources over parking areas.

The project would be required to comply with applicable provisions in the City's General Plan and zoning ordinance, as verified by the City's design review process.

4.6.2 Environmental Impacts

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 Best Management Practices during construction to minimize the idling of construction equipment (see **Section 4.3 Air Quality** and Jacobs 2019a, Section 3.6). This would ensure that fuel consumed during construction would not be wasted through unnecessary idling or operation of poorly maintained equipment. There is also a large local construction labor supply in the project area, thus minimizing transportation-related energy use for commuting to the extent feasible (Jacobs 2019a, Section 3.6). Additionally, the project would participate in the city's Construction & Demolition Diversion Program by recycling or diverting at least 75 percent of materials generated for discards by the project in order to reduce the amount of demolition and construction waste going to the landfill (Jacobs 2019a, Section 3.19.2d). 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 create a less –than significant impact on local and regional energy supplies and a less –than significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources.

Operation

Less Than Significant Impact. The 224 ICEs would operate for a total of 509 hours per year for maintenance and testing and load shedding, demand response and behind- the-meter Resource Adequacy capabilities. Additionally, the total number of hours of operation for reliability purposes (i.e., readiness testing and maintenance) for the administrative diesel fired gensets is limited by the data center to no more than 42 hours per generator annually (Jacobs 2021o, Section 3.3.3.2). At this rate, the total quantities of natural gas and diesel fuel used for all the generators operating at full load would be approximately 593 million cubic feet per year (mmft^3/yr)[2] and 152 barrels per year (bbl/yr)[3], respectively. Natural gas would be supplied from two existing PG&E natural gas transmission pipelines, Lines 101 and 109 via a pipeline that extends approximately 75 feet from the southern property line (Jacobs 2021o, Section 2.2.2). PG&E's gas supply infrastructure is extensive, and spans throughout the state to the Oregon and Arizona border, offering access to vast reserves of gas. This source represents far more gas than would be required for a project of this size. PG&E provides more than 970 billion cubic feet of natural gas per year (PG&E 2021).

The project's natural gas usage constitutes a small fraction (less than 0.062 percent) of the capacity PG&E provides annually. In addition, there are 12 underground natural gas storage fields in California with a total working gas capacity of 375 billion cubic feet (DOC

2 Calculated as: 5,204 cubic feet per hour x 509 hours per year x 224 ICEs = 593 million cubic feet per year

3 Calculated as: 92.3 gallons per hour x 42 hours per year x 1 1.25-MW generator + 34.4 gallons per hour x 42 hours per year x 1 0.5-MW generator = 5,321 gallons per year = 152 bbl/yr.

2021). California has diesel fuel supply of approximately 316,441,000 bbl/yr.[4] The project's use of fuel constitutes a small fraction (less than 0.000048 percent) of available resources. Both natural gas and diesel fuel supply are more than sufficient to meet necessary demand of the project. In addition, the project proposes to use both "renewable natural gas and renewable diesel to the maximum extent feasible" (Jacobs 2021o, Section 3.8.3, p. 3.8-9). Staff recommends **GHG-1** to incorporate and improve the enforceability of this proposal. Under the mitigation, the SJDC project stationary sources would be required to use an increasing mix of renewable fuel and phase out use of conventional petroleum energy resources.

For these reasons, the project's use of natural gas and diesel fuel is less than significant.

The generator models selected for this project have an efficiency rating comparable to other commercially available natural gas and diesel-fueled generators of similar generating capacity.

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[5] as well as the European Standards[6]. 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 performing loads. 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 must be noted that the PUE metric was designed to compare facilities of similar size and within similar

4 This is the sum of the annual production of 114,267,000 bbl and available stocks of 202,174,000 bbl obtained from the Energy Commission's Weekly Fuels Watch Report for 2020 (latest annual report available).
5 ISO/IEC 30134-2:2016
6 EN 50600-4-2:2016

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 SJDC is expected to achieve an average PUE of 1.20 and a peak PUE of 1.25 based on conformance with local, state, and federal energy efficiency building codes and standards (Jacobs 2019y, TN 240082). The project's peak operation PUE estimate of 1.25 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. The project's more realistic PUE, based on annual average site temperatures and less than maximum power loads, would not exceed 1.20.

The project would be built, in accordance with the 2019 California Green Building Code and would include green building measures to reduce energy consumption (Jacobs 2019a, Section 3.6). 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 and energy-efficient lighting to reduce energy usage;
- air economization[7] integrated into the central air handling system for building cooling;
- building insulation;
- low-energy adiabatic condensers; and
- Cool Roof, using reflective surfaces to reduce heat gains.

The data center's consumption of energy resources during operation would not be inefficient or wasteful. Project operation would have a less –than significant impact on local or regional energy supplies and on energy resources.

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

Construction and Operation

No Impact. During operation, the project would use both nonrenewable energy resources and renewable energy resources in SJCE's portfolio of resources. SJCE is the electricity provider for residents and businesses in the city of San Jose that do not opt out of its program. SJCE sources the electricity and PG&E delivers it to customers over existing utility lines. SJCE offers three products for its customers, the Green Value, Green Source, and Total Green. The Green Value consists of 36 percent renewable, 44 percent non-renewable carbon-free, and 20 percent unspecified sources. The Green Source consists

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7 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.

of 55 percent renewable, 35 percent non-renewable carbon-free, and 10 percent unspecified sources. SJCE offers 100 percent renewable energy to its customers through Total Green (San Jose 2021).

The applicant states they would purchase electricity from SJCE and/or implement other emission reduction measures mutually agreeable to the City of San Jose (Jacobs 2021o, p. 3.8-15). To ensure that the applicant's proposal is consistent with the "Renewable Energy Development" objectives of the 2030 GHGRS, the project would need to either participate in the SJCE at the Total Green level or negotiate an electricity contract with San Jose Clean Energy that accomplishes the same goals as the Total Green level. Therefore, staff proposes **GHG-2**, requiring the project owner to participate in the SJCE Total Green Program, or negotiate an electricity contract with SJCE that accomplishes the same goals as the Total Green level, to ensure compliance with the City's 2030 GHGRS. See **Section 4.8 Greenhouse Gas Emissions** for more information.

The project would receive electricity from SJCE sources, which is on track to meet the requirements of SB 100. SJCE has committed to meeting California's Renewable Portfolio Standard through its 100 percent renewable energy program - Total Green (San Jose 2020b). Therefore, power usage by the project would be consistent with SB 100.

The project would participate in the city's Construction & Demolition Diversion Program and implement measures to promote walking, bicycling, shuttles, provision for car-sharing/bicycle sharing, carpool, transit incentives and transit use, thereby reducing motor vehicle use. Through the city's design review process, SJDC would be required to comply with the California Green Building Code and the city's Envision San Jose 2040 General Plan Policies and Actions related to energy in Chapter 3 – Environmental Leadership guidelines, which are consistent with the EPA's Energy Star and Fuel Efficiency program.

Through energy efficient design and increased renewable electricity use from its primary source, the project would neither conflict with, nor obstruct state or local plans for renewable energy or energy efficiency, and therefore would have no impact on them.

4.6.3 Mitigation Measures

None.

4.6.4 References

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4.7 Geology and Soils

This section describes the environmental setting and regulatory background 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.

4.7.1 Environmental 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 4.7-1**.

TABLE 4.7-1: 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.
	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

TABLE 4.7-1: POTENTIAL FOSSIL YIELD CLASSIFICATION

BLM PFYC Designation	Assignment Criteria Guidelines and Management Summary
	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 4.7-1**). 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 slightly northward more 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 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

Figure 4.7-2 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 alluvial deposits originated from the East Bay Hills, located a few miles to the east, and are generally composed of poorly consolidated and interlayered clays, silts, sands, and gravels. **Figure 4.7-3** depicts the surface soil types in the vicinity of the project. These soils may have been deposited by one of the several streams in the general area. The underlying older marine deposits consist primarily of clay and fine sand (Kleinfelder 2016).

The project site is underlain by Holocene age (less than 11,000 years old) floodplain basin deposits (Qhfp) and natural levee deposits (Qhl) (**Figures 4.7-2** and **4.7-3**) (Helley and Wesling 1989). The basin and levee deposits are generally described as dark-colored clay with clayey sand and sand layers, rich in organic material, and deposited within the levees and flood plains. Based on borings conducted at the project site as part of geotechnical investigations conducted in 2016, the site is underlain predominately by granular materials of clayey sands, sands, and sands and gravels with variable clay content, sandy clays, with layers of lean to fat clays, and dense/hard interbedded gravels and sands (Kleinfelder 2016).

In addition, all deposits underlying the project site and associated linears are designated as having moderate potential (PFYC Class 3) to yield fossil resources or to contain significant nonrenewable paleontological resources according to BLM criteria (Jacobs 2019e). The maximum depth of soil disturbance is estimated to be approximately 35 to 65 feet below ground surface (Jacobs 2019a).

○ City/Town/Populated Place

E-Eureka
R-Redding
S-Sacramento
SF-San Francisco
M-Monterey
F-Fresno
B-Bakersfield
SB-Santa Barbara
LA-Los Angeles
PS-Palm Springs
N-Needles
K-Kelso
SD-San Diego

Figure 4.7-1
Geomorphic Provinces

Sources: California Department of Conservation, California Geological Survey, 2002

Although 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 project site itself has been used historically for farming since the early 1920s, with both orchards and row crops (Jacobs 2019a). This suggests that ground disturbing activities of ten feet or more have the potential to impact undiscovered paleontological resources in older Pleistocene sediments.

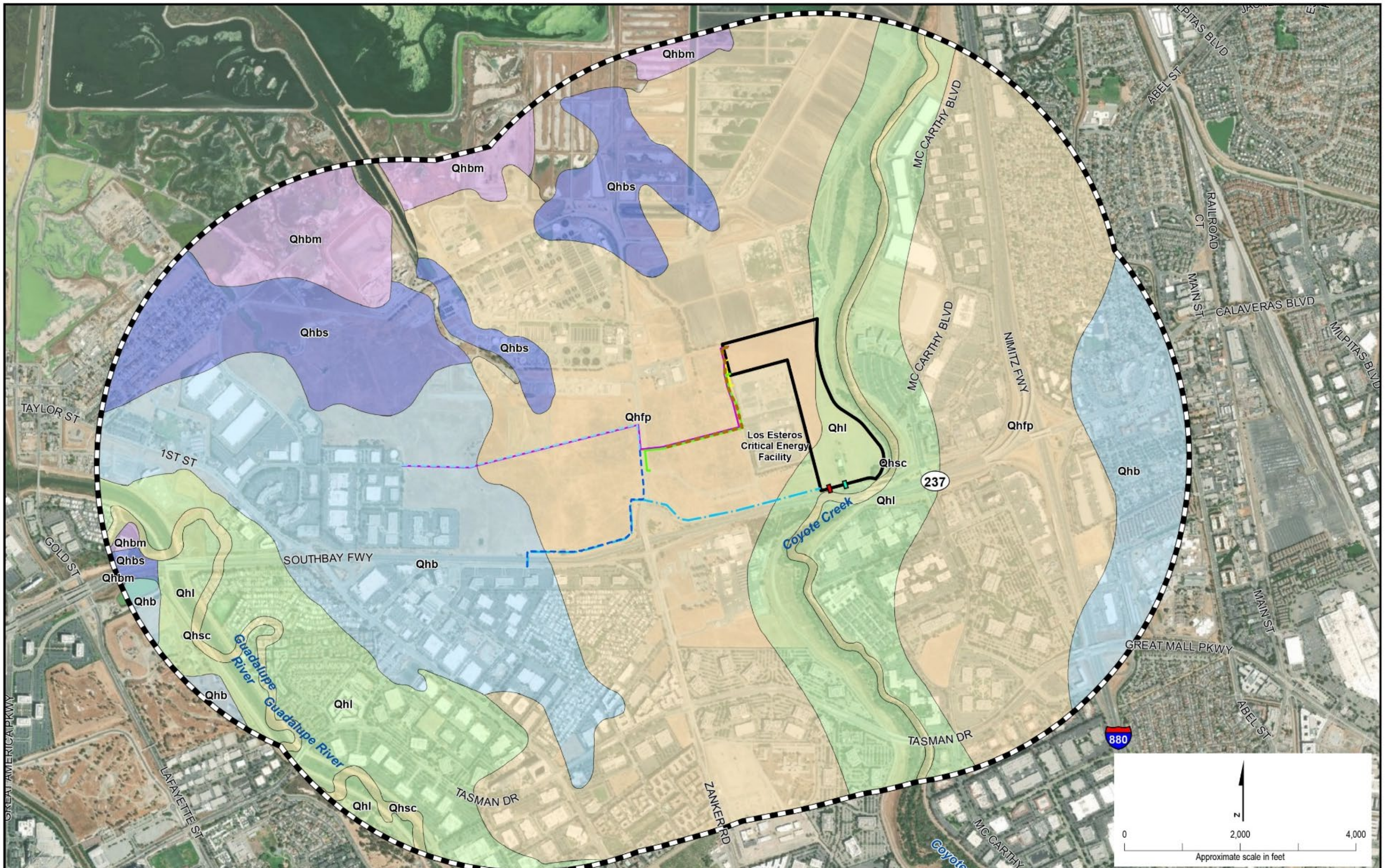
There are no unique geologic features on or adjacent to the project site. The topography of the project site is relatively flat with a slight downward slope to the northeast. Erosion hazards are limited and there are no landslide hazards (**Figure 4.7-2**).

Groundwater

Groundwater in the project site area has been historically high. Based on the depth to historically high groundwater elevation map prepared by the California Geological Survey for the Milpitas Quadrangle (CGS 2001), the depth to the high groundwater elevations in the site vicinity has been between 5 and 10 feet below the existing ground surface. Fluctuations in the level of the groundwater may occur due to variations in rainfall, underground drainage patterns, and other factors not evident at the time measurements were made.

According to recent exploratory borings at the project site, groundwater was encountered at depths of 12 feet to 22 feet. A pore pressure dissipation test performed in a cone penetration test (CPT) boring indicated a groundwater depth of 7 feet at the project site (Kleinfelder 2016).

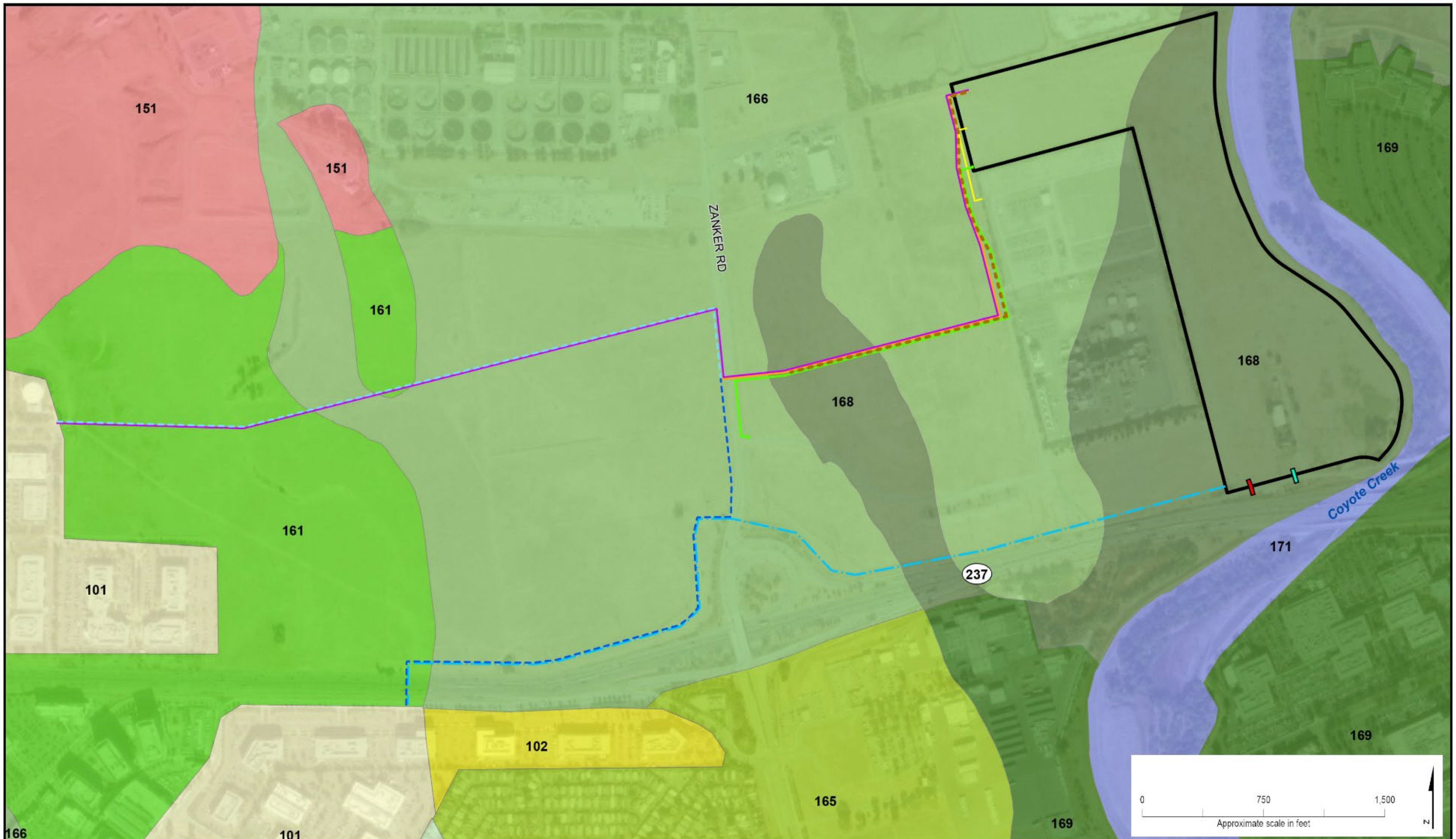
The San Jose Municipal Water System (SJMWS) has been relying on groundwater resources to meet increased demand along with a variety of ways, such as purchasing additional water from San Francisco Public Utilities Commission when available, or encouraging conservation and recycled water use among its existing customers to reduce existing potable water demands. The potable demands of the proposed Project fall easily within growth forecasts for industrial water use put forth in SJMWS's 2015 Urban Water Management Plan (SJMWS 2016). Further discussion regarding water use, as defined by the Water Supply Assessment (WSA) for a previously proposed development at the site can be found in **Section 4.10 Hydrology and Water Quality** as well as in **Section 4.19 Utilities and Service Systems.**



Project Site
1-Mile Buffer
Qhsc: Holocene Stream Channel Deposits
Qhl: Holocene Natural Levee Deposits
Qhfp: Holocene Floodplain Deposits
Qhb: Holocene Floodbasin Deposits
Qhbs: Holocene Floodbasin Deposits (salt-affected)
Qhbm: Holocene Estuary Deposits (Bay Mud)
Proposed Storm Drain
Proposed Gas Line #1
Proposed Gas Line #2
Proposed Sanitary Sewer
Proposed Reclaimed Water
Proposed Water Line Route #1
Proposed Water Line Route #2
Proposed Water Line Route #3
Proposed Shared Water Line
Proposed Electrical Supply Line

Figure 4.7-2
Geology Within 1 Mile of the Project Site

Source: Jacobs 2021z



SOIL TYPE

- 101: Urban land, 0 to 2 percent slopes, basins
- 102: Urban land, 0 to 2 percent slopes, alluvial fans
- 112: Xerorthents, trash substratum 15 to 30 percent slopes
- 151: Embarcadero silty clay loam, drained, 0 to 2 percent slopes
- 160: Urbanland-Clear Lake complex, 0 to 2 percent slopes
- 161: Clear Lake silty clay, 0 to 2 percent slopes, drained
- 165: Urbanland-Campbell complex, 0 to 2 percent slopes, protected
- 166: Campbell silt loam, 0 to 2 percent slopes, protected
- 168: Elder fine sandy loam, protected, 0 to 2 percent slopes
- 169: Urbanland-Elder complex, 0 to 2 percent slopes, protected
- 171: Elder fine sandy loam, 0 to 2 percent slopes, rarely flooded
- Project Site
- Proposed Storm Drain
- Proposed Gas Line #1
- Proposed Gas Line #2
- Proposed Sanitary Sewer
- Proposed Reclaimed Water
- Proposed Water Line Route #1
- Proposed Water Line Route #2
- Proposed Water Line Route #3
- Proposed Shared Water Line
- Proposed Electrical Supply Line

Figure 4.7-3
Soil Types within Project Area

Source: Jacobs 2021z

Seismicity and Seismic Hazards

While seismologists cannot predict earthquake events, the U.S. Geological Survey's Working Group on California Earthquake Probabilities estimates that there is a 72 percent chance of at least one 6.7 magnitude earthquake occurring in the Bay Area region between 2002 and 2032 (CGS 2010). As time progresses and no seismic event occurs, the probability of a seismic event occurring will increase as stress continues to build along local faults. 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 4.7-4**). Higher levels of shaking and damage would be expected for earthquakes occurring at closer distances to the site. Three of the major earthquake faults (the San Andreas Fault 17 miles to the west; the Hayward-Rogers Creek Fault 5 miles to the northeast; and the Calaveras Fault 7 miles to the east) that comprise the San Andreas Fault system extend through the Bay Area (CGS 2015).

The Silver Creek fault is approximately 0.4 mile to the west of the site, but this fault has not been active during the Quaternary age. The project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone (known formerly as a Special Studies Zone). No known surface expression of active faults is believed to cross the site (Kleinfelder 2016).

The geotechnical investigation utilized a design-level peak ground acceleration (PGA) of 0.58g for analysis at the site. In accordance with the California Building Standards Code (CBC 2019), which the project would be required to comply with, structural design of facilities in California are required to incorporate design features to ensure public safety. The design ground motion magnitudes are dependent on the site characterization as well as the type of structure.

Loose unsaturated sandy soils can settle during strong seismic shaking. Although the soils encountered below the design groundwater level at the site are predominantly clays, clayey sand, silty clay, gravels, and poorly graded sands, a site assessment estimated that potential liquefaction induced (seismic) settlement of up to 7½ inches during a strong earthquake (Kleinfelder 2016). Differential settlement of the ground surface may be estimated as one-half of the total. However, slabs would likely hang up on pile caps resulting in potential differential settlement approaching 7½ inches in some locations. Under this scenario significant damage would be expected to slab-on-grade floors, equipment supported on the floors, and underlying utilities that do not have flexible connections (Kleinfelder 2016). The final geotechnical report will include recommendations on foundation preparation and design necessary to mitigate both seismic and static settlement.

Soils

Figure 4.7-3 depicts the surficial soil units at and near the project site. The predominant surface soil type across the site is Elder fine sandy loam, which exhibits 0 to 2 percent slopes (NRCS 2020). Soils in the upper 3 to 5 feet of the site include predominately granular soils consisting of clayey sands, sands and gravels with variable clay content, and some sandy clays. Underlying these soils, numerous borings generally encountered lean to fat clays extending to depths of about 20 to 25 feet. These clayey soils were underlain by interbedded loose to medium dense gravels with sand, loose to medium dense sands with gravel, and low to medium plasticity sandy lean clays to a depth of approximately 80 feet bgs. Below this depth, dense, well-graded gravel with sand and clay and firm to very hard sandy lean clays were encountered and extended to the full depth of our explorations (Kleinfelder 2016).

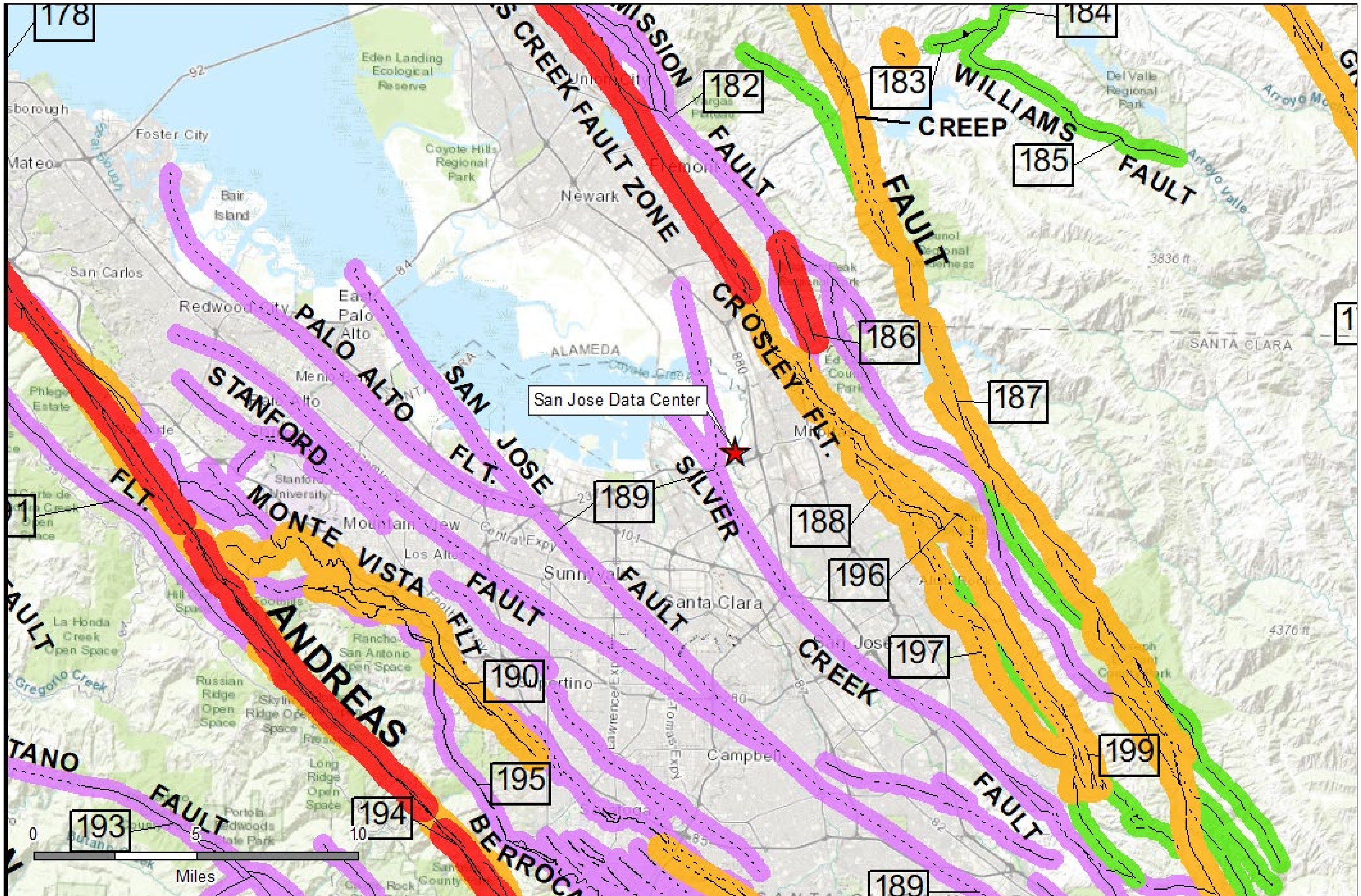
The borings and CPTs indicate a layer of granular soil between approximately 20 feet and 45 feet below the existing grade in the eastern area of the project site. However, this layer was not encountered in borings and CPTs in the western area. Therefore, two generalized soil profiles were developed for engineering calculations, one for the eastern area and the other for the western area (Kleinfelder 2016). The soil units encountered in those borings and CPTs appear to be consistent with geologic mapping of the area.

Expansive soil can undergo volume changes with changes in moisture content. Specifically, when wetted during the rainy season expansive soil tends to swell, and it shrinks when dried during the summer months. However, expansive soil can be mitigated through removal or mixing with non-expansive soil. The near-surface material across the project site has been observed to have low to medium expansion potential (Kleinfelder 2019).

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 (CGS 2001). Areas mapped for this hazard have been impacted historically by liquefaction or display geologic or groundwater conditions conducive to liquefaction. Ground water was encountered at depths ranging from approximately 7 feet to 22 feet below the current grade (Kleinfelder 2016). To evaluate the potential impact from liquefaction, the geotechnical investigation determined that several layers could potentially experience liquefaction triggering settlements on the order of 1 to 6 inches (Kleinfelder 2019). Proposed structures would be designed and constructed to account for this in accordance with the California Building Code (CBC 2019).



Fault Classification (based on most recent activity)

- Historic
- Holocene
- Late Quaternary
- Quaternary

Figure 4.7-4
Regional Fault Map

Source: California Department of Conservation 2010

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. Generally, failure in this mode is analytically unpredictable because it is difficult to evaluate where the first tension crack would occur. Coyote Creek is located adjacent to the eastern boundary of the project site. The preliminary geotechnical investigation determined that there is potential for lateral spreading to affect the proposed data building in the western portion of the site and that steps may be necessary, from a geotechnical design perspective, to address this concern (Jacobs 2019a).

Regulatory Background

The project would be required to comply with all applicable federal, state and local laws and regulations and would need to obtain building permits that would be issued by the city of San Jose. The issuance of the building permits and oversight provided by the city of San Jose would confirm that the project complies with the applicable regulatory framework.

Federal

As described in **Section 4.10 Hydrology and Water Quality** and noted further below, erosion control is regulated by the Federal Clean Water Act, State of California Porter Cologne Water Quality Act, the National Pollutant Discharge Elimination System (NPDES), and City General Plan policies 6-29 and 8-14.

Federal Clean Water Act and State Porter-Cologne Water Quality Control Act – Construction Site Discharges. Under the federal Clean Water Act, discharge of stormwater from construction sites must comply with the conditions of a National Pollutant Discharge Elimination System permit. The State Water Resources Control Board (SWRCB) has adopted a statewide General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) that applies to projects resulting in one or more acres of soil disturbance. For projects disturbing more than one acre of soil, a construction Stormwater Pollution Prevention Plan (SWPPP) is required that specifies site management activities to be implemented during site development. These management activities include construction stormwater best management practices; erosion and sedimentation controls; dewatering; runoff controls; and construction equipment maintenance. The SWRCB requires a Notice of Intent (NOI) to be filed prior to any stormwater discharge from construction activities, and that the SWPPP be implemented and maintained onsite.

Federal Paleontological Laws, Ordinances, Regulations, and Standards. The National Environmental Policy Act as amended (Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258 § 4(b), September 13, 1982) recognizes the continuing responsibility of the federal government to "preserve important historic, cultural, and natural aspects of our national heritage..." (Sec. 101 [42 U.S.C. § 4321]) (#382). This can be interpreted to refer to paleontological as well as cultural resources.

State

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

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

California Building Standards Code. The California Building Standards 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 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

City of San Jose Municipal Code. Local agencies must regulate the construction of buildings used for human occupancy in seismic hazard zones. The California Building Code (in Title 24, California Code of Regulations) serves as the basis for the design and construction of buildings in the state. Currently, the 2019 California Building Code contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, the strength of the ground, and distance to seismic resources. City of San Jose Municipal Code Title 24 of the San Jose Municipal Code includes the California Building, Plumbing, Mechanical, Electrical, Existing Building, Historical Building, and Green Building Codes. Requirements for building safety and earthquake hazard reduction are also addressed in Chapter 17.40 (Dangerous Buildings) and Chapter 17.10 (Geologic Hazards Regulations) of the Municipal Code.

Requirements for grading, excavation, and erosion control are included in Chapter 17.04 (Building Code, Part 6 Excavation and Grading). In accordance with the Municipal Code, the Director of Public Works must issue a Certificate of Geologic Hazard Clearance prior to the issuance of grading and building permits within defined geologic hazard zones.

The city's General Plan was reviewed for provisions relevant to paleontological resources. No requirements, policies, goals, or objectives relevant to paleontological resources were found.

City of San Jose General Plan. *Envision San Jose 2040 General Plan* includes the following policies applicable to all development projects in the city of San Jose.

- Policy EC-3.1: Design all new or remodeled habitable structures in accordance with the most recent California Building Code and California Fire Code as amended locally and adopted by the city of San Jose, including provisions regarding lateral forces.
- Policy EC-3.2: Within seismic hazard zones identified under the Alquist-Priolo Fault Zoning Act, California Seismic Hazards Mapping Act and/or by the city of San Jose, complete geotechnical and geological investigations and approve development proposals only when the severity of seismic hazards have been evaluated and appropriate mitigation measures are provided as reviewed and approved by the city of San Jose Geologist. State guidelines for evaluating and mitigating seismic hazards and the City-adopted California Building Code would be followed.
- Policy EC-4.1: Design and build all new or remodeled habitable structures in accordance with the most recent California Building Code and municipal code requirements as amended and adopted by the city of San Jose, including provisions for expansive soil, and grading and storm water controls.
- Policy EC-4.2: Approve development in areas subject to soils and geologic hazards, including non-engineered fill and weak soils and landslide-prone areas, only when the severity of hazards have been evaluated and if shown to be required, appropriate mitigation measures are provided. New development proposed within areas of geologic hazards shall not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties. The city of San Jose Geologist would review and approve geotechnical and geological investigation reports for projects within these areas as part of the project approval process.
- Policy EC-4.4: Require all new development to conform to the city of San Jose's Geologic Hazard Ordinance.
- Policy EC-4.5: Ensure that any development activity that requires grading does not impact adjacent properties, local creeks and storm drainage systems by designing and building the site to drain properly and minimize erosion. An Erosion Control Plan is required for all private development projects that have soil disturbance of one acre or more, are adjacent to a creek/river, and/or are located in hillside areas. Erosion Control Plans are also required for any grading occurring between October 15 and April 15.
- Policy EC-4.7: Consistent with the San Jose Geologic Hazard Ordinance, prepare geotechnical and geological investigation reports for projects in areas of known concern to address the implications of irrigated landscaping to slope stability and to determine if hazards can be adequately mitigated.
- Policy ES-4.9: Permit development only in those areas where potential danger to health, safety, and welfare of the persons in that area can be mitigated to an acceptable level.

4.7.2 Environmental Impacts

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 construction of the proposed project would have an impact on the risk of loss, injury, or death involving rupture of an earthquake fault during 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 4.4 miles from the project site (**Figure 4.7-4**). No active or potentially active faults are known to pass directly beneath the site. 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

Less Than Significant 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 4.7-4**). As described above, the zone of damage is limited to a relatively narrow area along either side of the fault. Given this, the impact would be less than significant.

ii. Strong seismic ground shaking?

Construction

Less Than Significant Impact. Earthquakes along several nearby active faults in the region could cause strong ground shaking at the site (Jacobs 2019a). 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, among other things, the building foundations, would include an assessment of the potential impacts of strong seismic ground shaking from a site-specific design-level seismic event. Seismic hazards would be minimized, to the extent feasible, by conformance to the applicable seismic design criteria of the California Building Standards Code (California Building Standards Commission 2019). Furthermore, recommendations for ground improvement (Kleinfelder 2019) to further reduce, to the extent feasible, the ground settlement hazard at the site would be incorporated into the project design (Jacobs 2019a).

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, and the project would be required to comply with all recommendations in this report when constructing the project. With implementation of seismic design criteria per the California Building Standards Code (California Building Standards Commission 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.

Operation

Less Than Significant Impact. During operation and maintenance of the proposed project, the project facility could be subject to strong seismic ground shaking (Jacobs 2019a). However, with implementation of the seismic design guidelines per the California Building Code (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. Therefore, impacts of the project on the safety of people or structures from strong seismic ground-shaking would continue to be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Construction

Less than Significant Impact. The site is located within a state-designated Liquefaction Hazard Zone, and there is potential for soil layers at the site to liquefy during a seismic event. Analyses indicate that liquefaction-induced settlement at the project site could range from less than 0.5 inch up to 7.5 inches in the upper 50 feet (Jacobs 2019a). The proposed structures would be designed and constructed in accordance with applicable provisions of the California Building Standards Code (California Building Standards Commission 2019) that are designed to address liquefaction concerns to the extent feasible.

In addition, as discussed under CEQA criterion "a", a project-specific design would be included within a geotechnical engineering report and provided to the city building department for review and approval prior to the issuance of a building permit, and the project would be required to comply with all recommendations in this report when constructing the project. Therefore, with implementation of the seismic design criteria for ground failure and the anticipated project-specific recommendations in the final geotechnical engineering report, the project would not expose people or property to any significant direct or indirect impacts associated with geologic or seismic conditions onsite, including liquefaction.

Operation

Less Than Significant Impact. During operation and maintenance of the proposed project the project facility could be subject to strong seismic ground shaking (Jacobs 2019a). However, with implementation of seismic design guidelines per the California Building Code (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, 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.

iv. Landslides?

Construction

Less Than Significant Impact. As the project site is relatively flat with no open faces or slopes near the site, there is low potential for landslides and, therefore, there are no direct or indirect significant impacts associated with landslides are expected to occur.

Operation

Less Than Significant Impact. As the project site is relatively flat with no open faces or slopes near the site, there is low potential for landslides. Construction of the project will not change the general surface morphology of the site, and operation and maintenance at the site will not change the general surface morphology of the site. Therefore, there are no direct or indirect significant impacts associated with landslides are expected to 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) would 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 4.10 Hydrology and Water Quality**, the project would be subject to construction related stormwater permit requirements. Prior to any ground-disturbing construction activity, the project must comply with the Construction General Permit, which includes filing a NOI with the SWRCB, coordinating with the city, and preparing and implementing a SWPPP. The SWPPP would include best management practices for stormwater quality control, including soil stabilization practices, sediment control practices, and wind erosion control practices. When construction is complete, the project would be required to file a Notice of Termination with the San Francisco Bay RWQCB and the city, documenting that all elements to the SWPPP have been implemented.

By complying with existing permits and other applicable laws and regulations, substantial soil erosion or loss of topsoil would not occur; and runoff from the project site would not violate the applicable waste discharge requirements or otherwise contribute to the degradation of stormwater runoff quality. Therefore, impacts related to erosion and loss of topsoil would be less than significant and no mitigation is required.

Operation

Less Than Significant Impact. BMP's for erosion and sedimentation control taken to comply with the NPDES permit would ensure the site would not include areas of exposed topsoil subject to erosion. 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 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.

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 southeastern portion of the project site, and liquefaction is potentially significant in the eastern portion of the project site. This potential impact would be reduced, for instance, by the construction of a shear key of improved soil between the building and Coyote Creek to the east. Ground improvements related to lateral spreading have been addressed in a Geotechnical Memorandum (Kleinfelder 2019), which include updated recommendations for ground improvements to reduce, to the extent feasible, the ground settlement hazard at the site. Additionally, a project-specific geotechnical engineering report would be conducted prior to final design that would incorporate project design features needed to address potential lateral spreading. This report would need to be approved by the city and the recommendations therein would need to be implemented in project construction. 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 applicable design criteria per the California Building Standards Code (California Building Standards Commission 2019), as well as the incorporation of 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 that could result from construction of this project.

Operation

Less Than Significant Impact. Operation and maintenance activities would not materially change the surface morphology 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.

d. Would the project 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?

Construction

Less Than Significant Impact. As discussed above in section "4.7.1 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 to very highly expansive soils are present across the site. This condition can be eliminated by verifying that slabs-on-grade have sufficient reinforcement and are supported on a layer of non-expansive soil, along with limiting moisture changes in the near-surface soils, among other design criteria. A geotechnical memorandum (Kleinfelder 2019), includes updated recommendations for ground improvements at the site to reduce the potential effects of expansive soils. A project-specific geotechnical engineering report, along with the final project design, would be required to address, as needed, any potential issues arising from expansive soils. Final project design documents would be provided to the city's building official for review and approval prior to issuance of a building permit, and the project would be required to incorporate all recommendations therein. With implementation of applicable design criteria per the California Building Standards Code (CBC 2019), as well as the incorporation of the anticipated project-specific mitigation recommendations in the final geotechnical engineering report, the project would not be located on expansive soil such that it would create substantial direct or indirect risks to life or property, and therefore impacts would be less than significant.

Operation

No Impact. Operation and maintenance activities would not change materially the surface morphology 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.

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 and Operation

No Impact. The project would connect to an existing city-provided sanitary sewer connection and would not require septic tanks (Jacobs 2019a). Therefore, there would be no impact to soils as a result of sanitary waste disposal from the project during construction.

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 moderate (Jacobs 2019e). The project site is located in the Santa Clara Valley, an area known to have scientifically significant but widespread or intermittent fossil discoveries. 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. Since the early 1920's, the project site itself has been used for farming of both orchards and row crops (Jacobs 2019e), which means the surface soil has been disturbed to depths of several feet.

The potential to disturb paleontological resources could 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. The maximum depth of soil disturbance is estimated to be approximately 35 to 65 feet below ground surface (Jacobs 2019a).

Based on the ground disturbance necessary to complete the project components, there is a limited potential for adverse impacts to scientifically significant paleontological resources from moderate sensitivity (PFYC 3) soil units. Ground disturbing activities of ten feet or more have the potential to impact undiscovered paleontological resources (Santa Clara 2010; Santa Clara 2011). The applicant proposed a measure to reduce impacts to a unique paleontological resource or unique geologic feature. The measure requires a Worker Environmental Awareness Program and a qualified paleontologist, and includes proper procedures (including identification and notification) in the event fossil materials are encountered during construction. The measure provides detailed procedures for collection and preservation of significant paleontological resources identified during construction. Staff reviewed this measure and finds it sufficient to reduce impacts.

There are no unique geologic features on or adjacent the project site, thus there would be no project impacts to such features.

Staff proposes **GEO-1**, which includes all of the above-mentioned requirements to reduce impacts. Staff concludes that with implementation of **GEO-1**, impacts to unique paleontological resources would be reduced be to a less than significant level.

Operation

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.

4.7.3 Mitigation Measures

GEO-1:

- The applicant shall secure the services of a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology, to be on-call prior to the commencement of construction. The paleontologist shall be experienced in teaching non-specialists to recognize fossil materials and how to notify in the event of encountering a suspected fossil. If suspected fossils are encountered during construction, the construction workers shall halt construction within 50 feet of any potential fossil find and notify the paleontologist, who shall evaluate its significance.
- If a fossil is encountered and determined to be significant and avoidance is not feasible, the paleontologist will develop and implement an excavation and salvage plan in accordance with Society of Vertebrate Paleontology standards. Construction work in the immediate area shall be halted or diverted to allow recovery of fossil remains in a timely manner. Fossil remains collected shall be cleaned, repaired, sorted, and cataloged, along with copies of all pertinent field notes, photos, and maps.
- The paleontologist shall prepare a paleontological resource monitoring report that outlines the results of the monitoring program and any encountered fossils. The report shall be submitted to the Director or Director’s designee of the City of San Jose Department of Planning, Building and Code Enforcement (PBCE) for review and approval. The report and any fossil remains collected shall be submitted to a scientific institution with paleontological collections.
- Prior to the commencement of construction, the applicant shall secure the services of a qualified paleontological specialist. The specialist shall prepare a Worker Environmental Awareness Program to instruct site workers of the obligation to protect and preserve valuable paleontological resources for review by the Director or

Director's designee of the City of San Jose PBCE. This program shall be provided to all construction workers via a recorded presentation and shall include a discussion of applicable laws and penalties under the laws; samples or visual aids of resources that could be encountered in the project vicinity; instructions regarding the need to halt work in the vicinity of any potential paleontological resources encountered; and measures to notify their supervisor, the applicant, and the specialists.

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4.8 Greenhouse Gas Emissions

This section describes the environmental setting and regulatory background and discusses greenhouse gas (GHG) emissions impacts associated with the construction and operation of the project.

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 CEQA Guidelines, Appendix G.

4.8.1 Environmental Setting

The project would include 224 natural gas generators and two diesel-fired administrative generators (Jacobs 2021o).

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. The Sixth Assessment Report is due in 2022 (IPCC 2017).

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 US 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 for sources that are otherwise considered major in federal regulations. The project would not be subject to any federal permitting requirements for GHGs.

U.S. EPA GHG Mandatory Reporting Program. On October 30, 2009, the EPA published a rule for mandatory reporting of GHG from stationary sources emitting at or above 25,000 metric tons (MT) of CO2e per year. The Greenhouse Gas Reporting Program (40 CFR 98) applies to direct GHG emitters, including electricity generation facilities and stationary fuel combustion sources. The program does not require control of GHGs, rather it requires that sources above the threshold to monitor and report emissions and other related data. Emergency-use only equipment is generally exempt. The proposed SJDC could be subject to annual reporting under this rule if emissions exceed the reporting threshold because the natural gas-fired generators could be used for load shedding purposes (Jacobs 2021o, pg. 3.8-2).

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 California Air Resources Board (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 in the AB 32 Scoping Plan.

AB 32 Scoping Plan. Part of the Legislature's direction to ARB 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 and another update in 2017. 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). The most-recent Climate Change Scoping Plan (ARB 2017a) demonstrates the approach necessary to achieve California's 2030 target, and an update of the Scoping Plan is currently under development for publication in 2022 to plan for California's targets beyond 2030.

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.

Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (Cap-and-Trade Program). California's Cap-and-Trade Program (17 CCR 95801 to 96022) was initially approved by ARB in 2011. The Cap-and-Trade Program establishes a declining limit on major sources of GHG emissions throughout California, and it creates economic incentive for sources to invest in cleaner, more efficient technologies. The current version of the regulation, effective April 2019, established the increasingly stringent compliance obligations for years 2021 to 2030. The Cap-and-Trade Program applies to covered entities that fall within certain source categories, including first deliverers of electricity (such as fossil fuel power plants) and electrical distribution utilities; in this case, the project would obtain electrical service from Pacific Gas and Electric Company (PG&E). Covered entities in the

Cap-and-Trade Program, including PG&E, must hold compliance instruments sufficient to cover the actual GHG emissions, as evidenced through the ARB's Mandatory Reporting Rule requirements. For the electricity supplied to the project from the grid, PG&E bears the GHG compliance obligation for delivering electricity to the grid from its power plants and for making deliveries to end-users, such as the project, unless the project is otherwise a covered entity in the Cap-and-Trade Program.

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 update to the Climate Change Scoping Plan identified strategies for achieving the 2030 goal of 40% below 1990 level on the path toward 80 percent 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 33 percent RPS by December 31, 2020, to all retail sellers of electricity and established renewable energy standards for interim years prior to 2020.

- **Senate Bill 350:** 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.
- **Senate Bill 100:** On September 10, 2018, SB 100 was signed into law, advancing 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 AB 32 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. The 2022 update to ARB's Scoping Plan is currently under development to plan for the 2045 target set forth by Executive Order B-55-18.

Regulation for Reducing SF_6 Emissions from Gas Insulated Switchgear (GIS). Title 17, California Code of Regulations, sections 95350 et. seq was enacted as an early action measure pursuant to AB 32 to reduce SF_6 emissions from the electricity sector's transmission and distribution system. The Regulation requires GIS owners to report the SF_6 emissions annually and requires reductions of SF_6 emissions from GIS over time, setting an annual emission rate limit for each GIS owner. The maximum allowable emission rate started at ten percent in 2011 and has decreased one percent per year since then. The limit would reach one percent in 2020 and remain at that level going forward. However, data show that statewide SF_6 capacity is growing by one to five percent per year, which will increase the expected SF_6 emissions. On July 21, 2020, ARB staff proposed amendments to the SF_6 regulation, which will expand the scope to include other GHGs beyond SF_6, change the term GIS to "gas-insulated equipment" (GIE) to include more devices beyond switchgear, and accelerate the transition to technologies that do not use SF_6.

Regional

2017 Bay Area Clean Air Plan. The Bay Area Air Quality Management District (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 GHG 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 Air Quality Guidelines. The purpose of the BAAQMD CEQA Guidelines is 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 include methodologies for estimating GHG emissions. BAAQMD has begun updating their CEQA Guidelines, but these are not yet available. BAAQMD has confirmed that the thresholds developed for GHG emissions are still technically effective, even though the 2020 goal to which they were targeted has passed. In the comment letter on the Notice of Preparation for this EIR, BAAQMD indicated that the GHG analysis should evaluate consistency of the SJDC with California's 2030, 2045 and 2050 climate goals (BAAQMD 2021a).

Diesel Free by '33. In 2018, the BAAQMD established a program intended to reduce GHG and criteria pollutant emissions by eliminating petroleum use by the year 2033. Various local agencies are encouraged to adopt the Statement of Purpose of this initiative. Entities signing the Statement of Purpose pledge to develop their own individual strategies to achieve the goal of reaching zero diesel emissions in their communities. Signatories to this agreement express their intent to:

1. Collaborate and coordinate on ordinances, policies, and procurement practices that will reduce diesel emissions to zero within their jurisdictions, communities or companies;
2. Share and promote effective financing mechanisms domestically and internationally to the extent feasible that allow for the purchase of zero emissions equipment;
3. Share information and assessments regarding zero emissions technology;
4. Build capacity for action and technology adaptation through technology transfer and sharing expertise;

5. Use policies and incentives that assist the private sector as it moves to diesel-free fleets and buildings; and
6. Periodic reporting to all signers of progress towards the zero-diesel emissions goal.

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 San Jose General Plan. The City Council adopted the *Envision San Jose 2040 General Plan* (General Plan) in November 2011, with amendments published in December 2018 and March 2020 (San Jose 2020a). Prior to developing this current General Plan, the City's Green Vision was adopted in October 2007, to steer economic growth while reducing GHG emissions through 2022. The General Plan includes a major strategy of "Measurable Sustainability" to incorporate and expand on the goals established earlier by the City's Green Vision (San Jose 2020a). The General Plan also provided the basis for the City's GHG Reduction Strategy initially established in 2011 and updated in 2015 (San Jose 2015).

Climate Smart San Jose. Climate Smart San Jose is a city-wide plan adopted by the City Council in February 2018 to promote urban sustainability. Climate Smart San Jose identified nine overarching strategies to promote sustainability through actions to "transition to a renewable energy future" and "improve our commercial building stock" (San Jose 2018).

City of San Jose GHG Reduction Strategy. The City of San Jose's 2030 GHG Reduction Strategy (GHGRS) is a comprehensive plan to achieve the City's share of statewide emissions reductions for 2030, as set forth by SB 32 (San Jose 2020b). 2020 timeframe established by AB 32, while meeting the mandates outlined in the BAAQMD's CEQA Guidelines. The City's first GHG Reduction Strategy was adopted in 2011 and amended in December 2015 (San Jose 2015). The City's 2030 GHGRS builds upon the prior strategies and the City's 2018 Climate Smart San Jose (San Jose 2018). The City's 2030 GHGRS follows the recommendations in the BAAQMD CEQA Guidelines and establishes a process for tiering and streamlining GHG analysis when the City acts as lead agency under CEQA. State CEQA Guidelines Section 15183.5 specifically allows lead agencies to analyze and mitigate GHG emissions through a plan for the reduction of GHG emissions, provided that the project complies with the requirements of the previously adopted plan or mitigation program.

City of San Jose Private Sector Green Building Policy (6-32). In October 2008, the City adopted the Private Sector Green Building Policy (6-32) that establishes baseline green building standards for private sector new construction and provides a framework for the implementation of these standards. This policy requires that applicable projects achieve minimum green building performance levels using the Council adopted standards. The proposed project would be subject to this policy. Since the proposed commercial/industrial project would be greater than 25,000 square feet, the proposed data center buildings would be required to achieve LEED Silver certification, at minimum.

City of San Jose, Natural Gas Infrastructure Prohibition. To support the City of San Jose's Greenhouse Gas Reduction Strategy, on December 1, 2020, the San Jose City Council approved an ordinance, known as a building "reach code" (Ordinance No. 30502), to prohibit natural gas infrastructure in all new construction in San Jose, starting on August 1, 2021. The City Council determined that natural gas combustion and gas appliances emit a wide range of air pollutants that have been linked to various acute and chronic health effects, and adopted the ordinance to reduce greenhouse gas emissions, increase indoor air quality, and protect public health and safety. The ordinance provides an exception until December 31, 2024 for hospitals and for facilities with a distributed energy resource and a limited exemption for manufacturing and industrial facilities.

Existing Conditions

California is a substantial contributor to global GHG emissions. The total gross California GHG emissions in 2019 were 418.2 $MMTCO_2e$ (ARB 2021). The largest category of GHG emissions in California is transportation, followed by industrial activities and electricity generation in state and out of state (ARB 2021). In 2019, total gross US greenhouse gas emissions were 6,558 $MMTCO_2e$ (U.S. EPA 2021).

The City of San Jose recently published a city-wide inventory of GHG emissions in 2019 (San Jose 2021), as shown in **Table 4.8-1**.

TABLE 4.8-1 CITY OF SAN JOSE 2019 GHG EMISSIONS INVENTORY

End-Use Sector	Percentage of Total (%)	Carbon dioxide-equivalent emissions ($MTCO_2e$)
Transportation	51.0	2,795,791
Buildings (Natural Gas & Electricity)	33.8	1,850,231
Process and fugitive emissions	9.3	510,579
Solid Waste	5.5	298,733
Wastewater Treatment	0.4	22,285
Total	**100**	**5,477,619**

Source: San Jose 2021.

The carbon intensity of electricity supplied to all of California's customers is on a downward trend, primarily due to programs advancing the use and availability of renewable energy. The mix of energy resources in the electricity supply changes from year to year. In general, the carbon intensity of PG&E's and California's electricity supply is on a long-term downward trend. (See Figure 4.8-1)

Depending on the customer type and size, PG&E offers a renewable energy content greater than the "Base Plan" mix through PG&E's "Solar Choice" program. For residential and commercial customers in the PG&E territory, enrolling PG&E's Solar Choice program provides the customer with a level of solar energy that exceeds the renewable energy mix in PG&E's default Base Plan. The PG&E Solar Choice program is available to businesses smaller than the proposed project having a peak load limited to 2 MW (PG&E 2021a).

The baseline mix of energy resources in the PG&E electricity supply including the Solar Choice options is shown in **Table 4.8-2**.

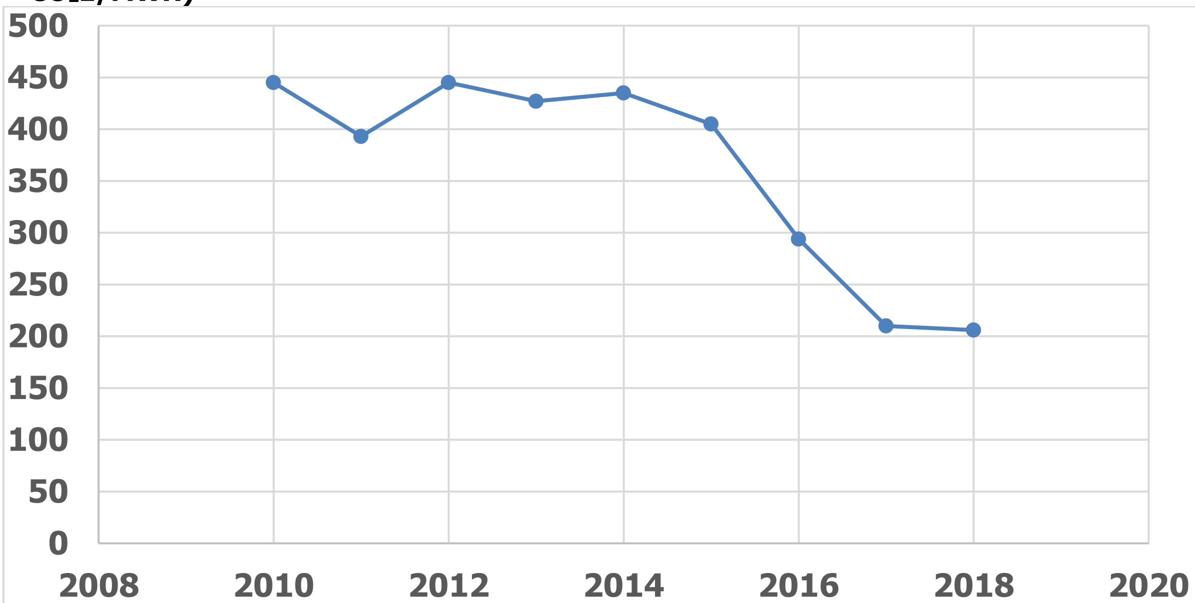
TABLE 4.8-2 COMPARISON OF THE MIX OF RESOURCES THAT MAKE UP THE ELECTRICITY SUPPLIED BY PG&E AND THE STATEWIDE POWER MIX

Energy Resources	2019 PG&E "Base Plan"	2019 PG&E 50% Solar Choice	2019 PG&E 100% Solar Choice	2019 California Power Mix
Renewable (Biomass, Geothermal, Eligible Hydroelectric, Solar, and Wind)	29%	64%	100%	32%
Coal	0%	0%	0%	3%
Large Hydroelectric	27%	14%	0%	15%
Natural Gas	0%	0%	0%	34%
Nuclear	44%	22%	0%	9%
Other	0%	0%	0%	< 1%
Unspecified sources of power (not traceable to specific sources)	0%	0%	0%	7%
Total	100%	100%	100%	100%

Source: 2019 Power Content Label for PG&E (CEC 2021)

Figure 4.8-1 illustrates the declining carbon intensity of PG&E's electricity supply, as indicated by PG&E's voluntary reporting.

FIGURE 4.8-1 CARBON INTENSITY OF ALL ELECTRICITY SUPPLIED BY PG&E (POUNDS CO_2E/MWH)



Source: PG&E 2021b

PG&E shows that the delivered electricity carbon intensity factors in 2016 and 2017 were 294 and 210 pounds (0.133 and 0.095 metric tons) of CO2e per MWh, respectively (PG&E 2021b). PG&E's 2018 carbon intensity was further reduced to 206 pounds (0.093 metric tons) of CO2e per MWh in 2018 (PG&E 2021b). See **Figure 4.8-1** for this trend. The Corporate Responsibility and Sustainability Report by PG&E notes that several factors affect PG&E's power mix and emissions from year to year. The carbon intensity factors depend on the availability of hydroelectric power and renewable energy in the energy mix for the year, the customer electricity demand and share of customers that receives power procurement from PG&E, as well as the availability and flexibility of the power plants in the PG&E portfolio (PG&E 2021b). As with all load serving entities in California, the carbon intensity factor will continue to change as the power mix gradually increases the use of renewable resources to achieve California's GHG and renewable energy goals.

4.8.2 Environmental Impacts

Methodology

The applicant estimated GHG emissions for both construction and operation of the SJDC project including all construction equipment, vendor and hauling truck trips and worker vehicle trips, and the operation of the natural gas-fired generators that may be used for load shedding and demand response and the two diesel generators.

Overall, emissions during project operation would be caused by use of the generators, which are stationary sources requiring air permits from the BAAQMD. Other sources that would be exempt from stationary source permitting requirements include mobile sources and area sources. These include GHG from: cooling units; offsite vehicle trips for worker commutes and material deliveries; and facility upkeep, including architectural coatings, consumer product use, landscaping, comfort heating (two water heaters), water use, waste generation, and electricity use (Jacobs 2021o).

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 stationary sources requiring BAAQMD permits to operate, the 10,000 $MTCO_2e$/yr significance threshold is applicable to the project's stationary sources.

This BAAQMD threshold is consistent with stationary source thresholds adopted by other air quality management districts throughout the state. According to the BAAQMD CEQA Guidelines (BAAQMD 2017b), the 10,000 $MTCO_2e$/yr threshold is expected to capture 95 percent of the stationary source sector GHG emissions in the Bay Area. The five percent of emissions that are from stationary source projects below the 10,000 $MTCO_2e$/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. According to BAAQMD, such small stationary source projects would not significantly add to the global problem of climate change, and they would not hinder the Bay Area's ability to reach the AB 32 goal in any significant way, even when considered cumulatively (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 the stationary source threshold (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 City of San Jose GHG Reduction Strategy and applicable regulatory programs and policies adopted by ARB or other California agencies. However, it should be noted that California's existing plans have focused on the 2020 and 2030 GHG goals and do not address the sharp cuts that will be needed to meet the 2045 goals and beyond. The 2022 update to ARB's Scoping Plan is currently under development to plan for the 2045 target set forth by Executive Order B-55-18.

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 3,800 MTCO2e during the estimated 17-month construction period, including offsite linear facilities for water, natural gas and electrical connections (Jacobs 2021o).

Because construction emissions would cease once construction is complete, they are considered short-term. The BAAQMD CEQA Guidelines do not identify a GHG emission threshold for construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed. BAAQMD further recommends incorporation of Best Management Practices (BMPs) to reduce GHG emissions during construction, as feasible and applicable. BMPs may include use of alternative-fueled (for example, renewable diesel or electric) construction vehicles and equipment for at least 15 percent of the fleet, use of at least 10 percent of local building materials, and recycling or reusing at least 50 percent of construction waste (BAAQMD 2017b). The applicant's estimate of GHG emissions during construction would be conservatively high because it assumes none of these BMPs would be implemented (Jacobs 2021o, pg. 3.8-9). The quantity of construction related GHG emissions would be limited to occur only during the construction phase, which would ensure GHG impacts are less than significant.

Operation

Less Than Significant with Mitigation Incorporated. GHG emissions from project operations would consist of emissions from use of the natural gas-fired and diesel-fired 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. While the project as proposed included the use of natural gas for heating, the City of San Jose's natural gas infrastructure ban, Ordinance No. 30502, would likely preclude the use of natural gas for space and water heating, thus reducing the project's direct GHG emissions from natural gas combustion.

Stationary Combustion Devices. The project would include 224 natural gas-fired engine-generator sets to provide site power during infrequent and unplanned emergencies, and for load shedding or demand response. Up to 500 hours of annual operation could occur for each of the 224 natural gas generators for resource load shedding and 9 hours annually for routine maintenance and testing. The project also includes two diesel-fired administrative generators that would be used only for readiness testing and during emergencies.

While the project proposes to operate up to 500 hours for grid support, as noted in the Air Quality section, PG&E's base interruptible program the project will participate in has not called for more than 28 hours in any one year from 2009-2021, with 10 of those years under 10 hours. (DR-84, Jacobs)

Calculations for GHG emissions from routine annual operation of the stationary sources assume all 224 natural gas generators would operate for 509 hours per year at 100 percent load for maintenance and testing and for load shedding or demand response; the two diesel-fired administrative generators would operate up to 42 hours per year per engine for readiness testing and maintenance.

The project's natural gas generators and diesel administrative generators are designed to serve as a supply of emergency backup power for the data center. Accordingly, emergency operations could also occur as a result of unplanned circumstances, although emissions from emergency operations are not quantified.

Table 4.8-3 shows the maximum potential annual GHG emissions for the generators based on the assumptions described above.

TABLE 4.8-3 GREENHOUSE GAS EMISSIONS FROM PROJECT STATIONARY SOURCES

Source	Maximum Annual Emissions ($MTCO_2e/yr$)
Natural Gas-Fired Generators [a]	33,522.3
Diesel-Fired Administrative Generators [a]	54.5
Total Project Stationary Sources [b]	33,577
BAAQMD Threshold	10,000
Exceeds Threshold?	Yes

Notes:
a The annual emissions assume all 224 natural gas-fired generators would operate for 509 hours per year at 100 percent load for maintenance and testing and for load shedding, demand response and behind the meter RA capabilities; the two diesel-fired administrative generators would operate up to 42 hours per year per engine for readiness testing and maintenance.
b Total project operation emissions quantified here do not include emergency operations that could occur as a result of unplanned circumstances.
Source: Jacobs 2021o Table 3.8-2; Jacobs 2021s, Appendix 3.3B, Table 11 [TN 239413].

Table 4.8-3 shows that the estimated average annual GHG emissions from the project's stationary sources including routine testing and maintenance of the standby generators would exceed the 10,000 $MTCO_2e/yr$ BAAQMD significance threshold for GHG emissions from stationary sources. This represents a potentially significant impact that requires mitigation.

To mitigate the GHG emissions from the project's stationary sources, the applicant proposed to implement two measures: to demonstrate compliance with CARB Cap-and-Trade Program requirements; and to use renewable fuels to the extent feasible (Jacobs 2021o, pg. 3.8-8 and pg. 3.8-9). Staff analyzes the effectiveness of these two approaches separately.

Meeting Cap-and-Trade Program Standards and Requirements. The applicant proposes to provide "documentation demonstrating that it has sufficiently secured offsets equivalent to the project's actual annual GHG emissions that are sufficient to meet the CARB Cap-and-Trade Program performance standards and requirements" (Jacobs 2021o, pg. 3.8-8). Staff reviewed this measure and finds it insufficient to reduce the impact of GHG emissions from stationary sources because, based on the expected annual hours of operation, emissions from the SJDC project would not routinely exceed the threshold level for inclusion in the Cap-and-Trade Program, which is 25,000 MTCO2e/yr. If the SJDC project exceeds the threshold level for inclusion in the Cap-and-Trade Program, the SJDC project would bear the GHG compliance obligation and would be required to comply with the applicable requirements of the Cap-and-Trade Program.

The BAAQMD CEQA Guidelines of 2017 recognized that the 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, page D-29). Since the publication of the BAAQMD CEQA Guidelines and the stationary source threshold, the Cap-and-Trade Program was extended, effective April 2019, to require increasingly stringent compliance obligations for years 2021 to 2030, consistent with California's 2030 GHG reduction target.

If the SJDC project exceeds the threshold level for inclusion, the SJDC project stationary source emissions would be tracked and covered within the Cap-and-Trade Program. Because the increasingly stringent cap in the regulation ensures that GHG emissions from the stationary source sector remain on a downward trend to 2030, the GHG emissions from the SJDC project stationary sources would not hinder California's efforts to achieve 2030 goals. However, the level of stationary source emissions could continue to exceed the 10,000 $MTCO_2e$/yr BAAQMD significance threshold for stationary sources. As such, mitigation for stationary source emissions (**GHG-1**) is recommended and discussed below.

Using Renewable Natural Gas and Renewable Diesel. The applicant has proposed a measure to use "renewable natural gas and renewable diesel to the maximum extent feasible" to increase the portion of biogenic CO_2 emitted by the project (Jacobs 2021o, pg. 3.8-9). Staff evaluated this measure in the context of the potential GHG impacts from the project's fuel source and concludes the measure is sufficient to reduce impacts. Staff recommends **GHG-1** to incorporate and improve the enforceability of this proposal. Under **GHG-1**, the SJDC project stationary sources would be required to exclusively use renewable fuels to displace the potential use of conventional petroleum energy resources.

The BAAQMD indicates that biogenic CO_2 emissions would not be included in the quantification of GHG emissions for characterizing CEQA impact significance for a project (BAAQMD 2017b, page 4-5). Accordingly, if the project can substitute the proposed use of petroleum-based natural gas and diesel with a renewable non-petroleum resource, the portion of project GHG emissions from the biogenic resources would be exempt from the stationary source threshold.

The potential providers of renewable natural gas and renewable diesel are presently unknown, and staff did not request evidence of the project's ability to secure these supplies. Staff assumes the applicant's proposal to use renewable natural gas is an offer to contract and procure a supply of biomethane, which is biogas that meets pipeline quality natural gas standards (as defined in 17 CCR 95102), that could be delivered across the conventional natural gas pipeline system. Similarly, staff assumes the applicant proposes to procure renewable diesel that is available from motor vehicle fuel suppliers to be delivered by tanker truck. As proposed, the fuels used by the SJDC project stationary sources would be a mix of conventional, renewable and/or possibly RPS-eligible resources.

Staff recommends implementing **GHG-1** to require the project to exclusively use renewable fuels for 100 percent of total energy use by the natural gas-fired and diesel-fired generators. With **GHG-1**, the GHG emissions caused by the SJDC project stationary sources using biogenic resources would be exempt from the stationary source threshold. Additionally, the stationary source emissions would be consistent with the statutory targets for use of renewable fuels in the electricity supply and would not hinder California's efforts to achieve 2030 or 2045 goals. With this mitigation measure, the environmental impact of GHG emissions from the project stationary sources would be reduced to a level that would not be significant.

Data Center Electricity Usage. The proposed project would require a continuous electricity supply up to a theoretical maximum demand of 99 MW, 24 hours a day or 8,760 hours per year. Although actual electricity usage in any year would be lower than this level, staff conservatively assumes that the project could consume up to 867,240 MWh per year, based on the maximum demand of 99 MW during all 8,760 hours per year.

Electricity used by the project would be delivered by PG&E, although the applicant has the option of choosing the mix of energy resources in the electricity supply by purchasing energy from either PG&E or San Jose Clean Energy (SJCE).

The SJDC project applicant offers to purchase electricity from SJCE instead of PG&E (Jacobs 2021o, pg. 3.8-13). The City of San Jose's Community Energy Department operates SJCE as a Community Choice Aggregator to procure electricity with a lower carbon intensity than PG&E's mix. The current SJCE Green Source power generation mix includes 46 percent renewable, 31 percent large hydroelectric and the remainder from nuclear and unspecified sources, and the Total Green mix is 100 percent renewable (SJCE 2021). Unspecified sources aren't traceable to a specific generation facility, such as electricity traded through open-market transactions. The applicant does not commit to any particular mix of resources in the electricity supply options available from PG&E and SJCE (Jacobs 2021o, pg. 3.8-13).

Because the applicant has options in the choice of electricity supply, staff conservatively assumes that the SJDC project would initially purchase electricity at the PG&E's average

2018 carbon intensity of 206 pounds (0.093 metric tons) of CO2e per MWh (PG&E 2021b). With PG&E's average supply of electricity, up to 81,035 metric tons of CO2e per year could be caused by the project's electricity use.

Mobile Sources and Area Sources. Routine operation of the data center buildings would generate motor vehicle trips as a result of approximately 100 employees plus approximately 30 vendor trips daily (Jacobs 2021o, page 3.8-10). Area source emissions of GHG include landscaping activities (Jacobs 2021o, pg. 3.8-11).

Natural Gas-Fired Water Heaters. The project proposes to include two natural gas-fired water heaters (one per data center building) for comfort heating. Each of the water heaters would be small enough to be exempt from BAAQMD permitting as stationary sources (Jacobs 2021o, pg. 3.8-10). According to the City of San Jose, Natural Gas Infrastructure Prohibition, these proposed devices would need to be replaced with electric devices.

Refrigerant Use. The proposed data center buildings would use refrigerants in the operation of two packaged air handling units and up to 72 split system condensing units used for administrative purposes or generator cooling. The applicant review of manufacturer data indicates that the facility's systems would have a total capacity of 1,396 pounds of R-410A, which qualifies as a high-GWP refrigerant. Assuming a conservatively high annual leak rate for commercial cooling equipment of up to 20 percent (Jacobs 2021s, Appendix 3.3B, Table 16), and the ARB-default GWP for R-410A of 2,088, the fugitive emissions would occur at a refrigerant leak rate of approximately 279 pounds of R-410A per year or 264 metric tons of CO2e per year.

Project Water Consumption and Waste Generation. Water consumption results in indirect emissions from electricity usage for water conveyance and wastewater treatment. Daily operations at the data center would also generate solid waste, which results in fugitive GHG emissions during waste decomposition (Jacobs 2021o, pg. 3.8-10).

Summary of GHG Emissions. The GHG emissions associated with electricity use, mobile sources, and building operation are provided in **Table 4.8-4**.

TABLE 4.8-4 MAXIMUM GHG EMISSIONS FROM ELECTRICITY USE, MOBILE SOURCES AND FACILITY UPKEEP

Source	Annual Emissions ($MTCO_2e/yr$)
Electricity Use [a]	81,035
Mobile Sources	455
Area Sources, Landscaping	0.01
Natural Gas for Water Heating	562
Refrigerant Use [b]	264
Waste Generation	248
Water Use	514
Total	83,078

Notes:
a Based on 2018 PG&E carbon intensity factor of 206 pounds of CO_2e per MWh.
b Based on use of R-410A, with GWP of 2,088 (ARB's use of IPCC AR4, 2007).
Source: Jacobs 2021o, Table 3.8-3; Jacobs 2021s, Appendix 3.3B, Table 12 & 16 [TN 239413]; Staff independent estimate of GHG from Electricity Use and Refrigerant Use.

The emissions from electricity use, mobile sources, and building operation in **Table 4.8-4** would occur in addition to the GHG emissions from stationary sources in **Table 4.8-3**. The emissions from the maximum possible rate of electricity use is estimated to be 81,035 MTCO2e/yr; however, this does not include efficiency measures that would be pursued as part of the project, nor does it reflect implementation of state and local measures to reduce GHG emissions associated with electricity production and California's fuels. For example, programs to implement SB 350 and SB 100 would continue to promote renewable resources in the power mix and ensure the ongoing substantial reductions in GHG emissions from electricity generation.

Conclusion

The SJDC project would create approximately 3,800 MTCO2e during the estimated 17-month construction period. Upon entering routine operation, use of the generators (stationary sources) would create up to 33,577 MTCO2e/yr as shown in **Table 4.8-3**, and electricity use, mobile sources, and building operation could lead to an additional 83,078 MTCO2e/yr as shown in **Table 4.8-4**.

The GHG emissions for the operation of facility's stationary sources would exceed the BAAQMD significance threshold of 10,000 $MTCO_2e/yr$, and to reduce this impact, **GHG-1** would require the SJDC project stationary sources to use renewable fuels to ensure that operation of the generators would not hinder California's efforts to achieve 2030 or 2045 GHG reduction goals. With this measure, the project's GHG emissions from stationary sources would not have a significant direct or indirect impact on the environment.

The GHG emissions from the project's electricity use, mobile sources, and building operation would occur in a manner consistent with the AB 32 Scoping Plan and later programs to implement SB 350 and SB 100 to achieve California's 2030 GHG reduction targets. These categories of GHG emissions would not result in a "cumulatively considerable" contribution under CEQA because they would conform with all applicable plans, policies, and regulations adopted for the purpose of GHG reductions. Therefore, the maximum potential rate of GHG emissions from the project's electricity use, mobile sources, and building operation are determined to have less than significant GHG impacts.

The majority of the project's operational GHG emissions would occur during routine use of the generators or as a result of electricity use. The project's likelihood of operating for unplanned circumstances or emergency purposes, beyond the 509 hours already assessed, is low and if such operation did occur it would be infrequent and of short duration. Staff concludes that these emissions would be less than significant.

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[1] and construction GHG emissions would not interfere with the state's ability to achieve long-term GHG emissions reduction goals. The vehicles and fuel supplies used during demolition and construction of the project are required to comply with the applicable GHG reduction programs for mobile sources and suppliers of transportation fuels. 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 AB 32 Scoping Plan.

Operation

Less Than Significant with Mitigation Incorporated. The project's GHG emissions include those from the natural gas-fired generators that may be used for load shedding and demand response and the two diesel generators; each of these sources require periodic readiness testing and maintenance related to operation. Additional GHG emissions would occur from the project's electricity use, mobile sources, and building operation.

Currently, California has adopted policy goals to lead California to a low carbon future, including Executive Order B-55-18, which calls for achieving carbon neutral statewide emissions as soon as possible and no later than 2045. California's current regulatory framework includes the Cap-and-Trade Program for stationary sources to reduce emissions in a manner consistent with achieving California's 2030 target. The project must demonstrate compliance with all applicable mandatory reporting and Cap-and-Trade Program requirements. Towards the state goal of carbon neutrality, the project is consistent through the use renewable biogas and diesel fuel. Implementation of **GHG-1** would implement the measure to use renewable fuels to avoid GHG impacts related to stationary source emissions.

1 Limited demolition is anticipated at the site as the 2 vacant residences and a storage shed/warehouse onsite, were demolished in 2021 after a fire significantly affected the safety of one of the dwellings (Jacobs 2021o, pg. 3.3-12).

U.S. EPA GHG Mandatory Reporting Program. The proposed SJDC could be subject to annual reporting under this rule if emissions exceed the reporting threshold because the natural gas-fired generators could be used for load shedding purposes (Jacobs 2021o, pg. 3.8-2).

Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (Cap-and-Trade Program). The SJDC project would be a covered entity as facility providing self-generation of electricity, including stationary combustion devices (17 CCR 95811). Although SJDC may not routinely exceed the emissions threshold level (25,000 MTCO2e/yr) for inclusion in the Cap-and-Trade Program, the project would be required to comply with all applicable requirements of the Cap-and-Trade Program.

California SB 100. SB 100 advanced the clean energy, clean air and greenhouse gas reduction goals for 2030 from SB 350 to increase the renewable energy resources targets to 50 percent by 2026 and 60 percent by 2030. It also requires renewable energy resources and zero-carbon resources to supply 100 percent of all retail sales of electricity by 2045. The project's GHG emissions are predominantly from electricity usage. Because all electricity supplied to the project by PG&E or SJCE would be subject to the RPS requirements promulgated under SB 100, the project would not conflict with plans, policies, or regulations adopted pursuant to SB 100.

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

Indirect emissions related to the electricity used by the project and supplied by PG&E or SJCE must comply with California's RPS and Cap-and-Trade Program requirements. Other project activities would be similar to those of other commercial or industrial projects subject to development review by the City of San Jose.

The project proposes to 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 2019 Energy Efficiency Standards requirements, and the 2019 California Green Building Standards Code, commonly referred to as CALGreen (Title 24, Part 11 of the California Code of Regulations) (Jacobs 2021o, pg. 3.8-11).

The project would conform to relevant programs and recommended actions detailed in the AB 32 Scoping Plan and Mobile Source Strategy. Operation of the project would not conflict with regulations adopted to achieve the goals of the Scoping Plan. Accordingly, the project's operational activities would not interfere with the state's ability to achieve long-term GHG emissions reduction goals.

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 GHG emissions to 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The Bay Area 2017 Clean Air Plan includes Energy and Climate Measure (ECM)-1 – Energy Efficiency, and due to the relatively high electrical demand of the SJCDC, energy efficiency measures would be included in the design and operation of the onsite electrical and mechanical systems, consistent with this measure. Additionally, the SJCDC project applicant proposes to use renewable natural gas and renewable diesel, and also to purchase electricity from SJCE. These features would be consistent with the Bay Area 2017 Clean Air Plan measure to Decarbonize Electricity Generation (EN1).

BAAQMD's Diesel Free by '33 Initiative. This initiative encourages local communities in BAAQMD's territory to reach zero diesel emissions in their communities by replacing diesel-fueled vehicles and equipment with zero emission technologies. In 2018, the Mayor and Vice Mayor of the City of San Jose became signatories to the initiative. However, the Commission has concluded that Diesel Free by '33 is not an appliable GHG emissions reduction strategy, program, or law that facilities must comply with.

Renewable diesel is currently used as a transportation fuel. There are both federal (CEC 2020k) and state incentives that offset the increased cost of renewable diesel compared to petroleum diesel when used in transportation applications. However, at this time staff is not aware of any incentives that would apply to use of renewable diesel in backup generators such as those at SJCDC or other stationary sources. The SJCDC project applicant proposes to use "renewable natural gas and renewable diesel to the maximum extent feasible" to increase the portion of biogenic CO_2 emitted by the project (Jacobs 2021o, pg. 3.8-9).

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.

San Jose GHG Reduction Strategy. The project owner would apply for building permits from the City of San Jose. For commercial or industrial projects subject to development review by the City of San Jose, the City's 2030 GHGRS presents the City's comprehensive path to reduce GHG emissions to achieve the 2030 reduction target, based on the goals set forth with SB 32 and BAAQMD CEQA Guidelines. The City of San Jose's 2030 GHGRS represents San Jose's qualified climate action plan for the City's implementation of CEQA (San Jose 2020b).

The project owner would incorporate measures from the City's 2030 GHG Reduction Strategy, as specified by the City during the design review process to ensure compliance with applicable laws, ordinances, regulations, and standards. Conformance with the applicable design codes and policies will be enforced during the City design review process, and the applicant commits to implement emission reduction measures mutually agreeable to the City (Jacobs 2021o, pg. 3.8-13).

Consistency of the project with the City's 2030 GHGRS (San Jose 2020b) is discussed in **Table 4.8-5**.

TABLE 4.8-5 PROJECT CONSISTENCY WITH CITY 2030 GHG REDUCTION STRATEGY

Emission Reduction Policies	**Project Compliance**
1) Consistency with the Land Use/ Transportation Diagram (Land Use and Density)	
Is the proposed Project consistent with the Land Use/Transportation Diagram?	Yes. The site is within the LI Light Industrial Zoning District, Alviso Master Plan Area, and is designated Light Industrial in the *Envision San Jose 2040 General Plan*. The project would be consistent with the existing General Plan designations on the site. See **Section 4.11, Land Use and Planning** for more details.
2) Implementation of Green Building Measures	
MS-2.2: Encourage maximized use of on-site generation of renewable energy for all new and existing buildings.	Yes. The project will set aside space for onsite solar panels. The applicant proposes to use "renewable natural gas and renewable diesel to the maximum extent feasible" to increase the portion of biogenic CO2 emitted by the project (Jacobs 2021o, page 3.8-9).
MS-2.3: Encourage consideration of solar orientation, including building placement, landscaping, design, and construction techniques for new construction to minimize energy consumption.	Yes. The project will use water-efficient landscaping and ultra-low flow plumbing fixtures in the proposed buildings will limit water consumption. The project will set aside space for onsite solar panels.
MS-2.7: Encourage the installation of solar panels or other clean energy power generation sources over parking areas.	Yes. The project will set aside space for onsite solar panels.
MS-2.11: Require new development to incorporate green building practices, including those required by the Green Building Ordinance. Specifically, target reduced energy use through construction techniques (e.g., design of building envelopes and systems to maximize energy performance), through architectural design (e.g., design to maximize cross ventilation and interior daylight) and through site design techniques (e.g., orienting buildings on sites to maximize the effectiveness of passive solar design).	Yes. The project will use lighting control to reduce energy usage for new exterior lighting and air economization for building cooling, when feasible. The project will use materials (wallboard partitions, ceiling tiles, and floor surfaces) that include post-consumer waste. The project will meet the standards of the 2019 California Green Building Standards Code.
MS-16.2: Promote neighborhood-based distributed clean/renewable energy generation to improve local energy security and to reduce the amount of	Yes. The project would include a distributed energy resource for the site.

TABLE 4.8-5 PROJECT CONSISTENCY WITH CITY 2030 GHG REDUCTION STRATEGY	
Emission Reduction Policies	**Project Compliance**
energy wasted in transmitting electricity over long distances.	
3) Pedestrian, Bicycle & Transit Site Design Measures	
CD-2.1: Promote the Circulation Goals and Policies in the *Envision San Jose 2040 General Plan*. Create streets that promote pedestrian and bicycle transportation by following applicable goals and policies in the Circulation section of the *Envision San Jose 2040 General Plan*.	Yes. The project would include construction of new street connections and bicycle facilities to improve roadway network connectivity. See **Section 4.17, Transportation** for more details.
CD-2.5: Integrate Green Building Goals and Policies of the *Envision San Jose 2040 General Plan* into site design to create healthful environments. Consider factors such as shaded parking areas, pedestrian connections, minimization of impervious surfaces, incorporation of stormwater treatment measures, appropriate building orientations, etc.	Yes. The project will comply with all state green building practices, as required. The project will meet the standards of the 2019 California Green Building Standards Code.
CD-2.11: Within the Downtown and Urban Village Overlay areas, consistent with the minimum density requirements of the pertaining Land Use/Transportation Diagram designation, avoid the construction of surface parking lots except as an interim use, so that long-term development of the site will result in a cohesive urban form.	Not applicable. The project is not within a Downtown or Urban Village overlay.
CD-3.2: Prioritize pedestrian and bicycle connections to transit, community facilities (including schools), commercial areas, and other areas serving daily needs. Ensure that the design of new facilities can accommodate significant anticipated future increases in bicycle and pedestrian activity.	Yes. The project would include construction of new street connections and bicycle facilities to improve roadway network connectivity. See **Section 4.17, Transportation** for more details.
CD-3.4: Encourage pedestrian cross-access connections between adjacent properties and require pedestrian and bicycle connections to streets and other public spaces, with particular attention and priority given to providing convenient access to transit facilities. Provide pedestrian and vehicular connections with cross-access easements within and between new and existing developments to encourage walking and minimize interruptions by parking areas and curb cuts.	Yes. The project would include construction of pedestrian and bicycle network improvements. See **Section 4.17, Transportation** for more details.
LU-3.5: Balance the need for parking to support a thriving Downtown with the	Not applicable. The project is not located in the Downtown area.

TABLE 4.8-5 PROJECT CONSISTENCY WITH CITY 2030 GHG REDUCTION STRATEGY	
Emission Reduction Policies	**Project Compliance**
need to minimize the impacts of parking upon a vibrant pedestrian and transit oriented urban environment. Provide for the needs of bicyclists and pedestrians, including adequate bicycle parking areas and design measures to promote bicyclist and pedestrian safety.	
TR-2.8: Require new development to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements.	Yes. The project will include bicycle and pedestrian amenities and promote employee vehicle trip reductions consistent with the City's requirements. See **Section 4.17, Transportation** for more details.
TR-7.1: Require large employers to develop TDM programs to reduce the vehicle trips and vehicle miles generated by their employees through the use of shuttles, provision for car-sharing, bicycle sharing, carpool, parking strategies, transit incentives and other measures.	Yes. The project would include multi-modal infrastructure improvements, parking reduction measure and Transportation Demand Management (TDM) measures. See **Section 4.17, Transportation** for more details.
TR-8.5: Promote participation in car share programs to minimize the need for parking spaces in new and existing development.	Not applicable. Due to the low number of employees, a car share program is not proposed.
4) Water Conservation and Urban Forestry Measures	
MS-3.1: Require water-efficient landscaping, which conforms to the State's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial, and developer-installed residential development unless for recreation needs or other area functions.	Yes. The project will use water efficient landscaping with low water usage plantings to minimize irrigation requirements.
MS-3.2: Promote the use of green building technology or techniques that can help reduce the depletion of the City's potable water supply, as building codes permit. For example, promote the use of captured rainwater, graywater, or recycled water as the preferred source for non-potable water needs such as irrigation and building cooling, consistent with Building Codes or other regulations.	Yes. The project will use recycled water for landscape irrigation and the fluid coolers. Ultra-low flow plumbing fixtures in the proposed buildings will also limit potable water consumption, consistent with water-efficient development.
MS-19.4: Require the use of recycled water wherever feasible and cost-effective to serve existing and new development.	Yes. The project will use recycled water for landscape irrigation and the fluid coolers.
MS-21.3: Ensure that San Jose's Community Forest is comprised of species that have low water requirements and are	Yes. The project will use water efficient landscaping with low water usage plantings to minimize irrigation requirements.

TABLE 4.8-5 PROJECT CONSISTENCY WITH CITY 2030 GHG REDUCTION STRATEGY	
Emission Reduction Policies	**Project Compliance**
well adapted to its Mediterranean climate. Select and plant diverse species to prevent monocultures that are vulnerable to pest invasions. Furthermore, consider the appropriate placement of tree species and their lifespan to ensure the perpetuation of the Community Forest.	
MS-26.1: As a condition of new development, require the planting and maintenance of both street trees and trees on private property to achieve a level of tree coverage in compliance with and that implements City laws, policies or guidelines.	Yes. The project's landscape will include drought-tolerant trees to provide adequate coverage.
ER-8.7: Encourage stormwater reuse for beneficial uses in existing infrastructure and future development through the installation of rain barrels, cisterns, or other water storage and reuse facilities.	Yes. The project will maximize reuse of stormwater runoff to the extent feasible.
City's 2030 Greenhouse Gas Reduction Strategy Compliance	
Renewable Energy Development 1. Install solar panels, solar hot water, or other clean energy power generation sources on development sites, or 2. Participate in community solar programs to support development of renewable energy in the community, or 3. Participate in San Jose Clean Energy at the Total Green level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project.	Yes, with mitigation. The applicant proposes to participate in San Jose Clean Energy or implement other measures mutually agreeable to the City (Jacobs 2021o, pg. 3.8-13). Because the applicant does not commit to purchasing the project's electricity supply at the Total Green level, staff recommends **GHG-2** to ensure that the electricity supply is consistent with the Total Green level.
Building Retrofits – Natural Gas 1. Replace an existing natural gas appliance with an electric alternative (e.g., space heater, water heater, clothes dryer), or 2. Replace an existing natural gas appliance with a high-efficiency model	Not Applicable. The project does not include any retrofit of existing buildings.
Zero Waste Goal 1. Provide space for organic waste (e.g., food scraps, yard waste) collection containers, and/or 2. Exceed the City's construction & demolition waste diversion requirement.	Yes. The project will use materials (wallboard partitions, ceiling tiles, and floor surfaces) that include post-consumer waste. The project would be required to comply with the City's Construction & Demolition Diversion Program that ensures at least 75 percent of construction & demolition waste is recovered and diverted from landfills (Jacobs 2021p, pg. 3.19-6 [TN 239410]).
Caltrain Modernization 1. For projects located within ½ mile of a Caltrain station, establish a program through which to provide project tenants	Not Applicable. The project is not within ½ mile of a Caltrain station. The project would include multi-modal infrastructure improvements, parking reduction measure and TDM measures. See **Section 4.17, Transportation** for more details.

TABLE 4.8-5 PROJECT CONSISTENCY WITH CITY 2030 GHG REDUCTION STRATEGY	
Emission Reduction Policies	**Project Compliance**
and/or residents with free or reduced Caltrain passes or 2. Develop a program that provides project tenants and/or residents with options to reduce their vehicle miles traveled (e.g., a TDM program), which could include transit passes, bike lockers and showers, or other strategies to reduce project related VMT.	
Water Conservation 1. Install high-efficiency appliances/fixtures to reduce water use, and/or include water-sensitive landscape design, and/or 2. Provide access to reclaimed water for outdoor water use on the project site.	Yes. The project will provide water-efficient landscaping and ultra-low flow plumbing fixtures to limit water consumption. The project will use recycled water for landscape irrigation and the fluid coolers.

The City's 2030 GHGRS includes three compliance options for "Renewable Energy Development" at non-residential projects. Compliance can be achieved in one of three ways: installing solar panels, solar hot water, or other clean energy power generation sources onsite; participating in community solar programs; or participating as a customer of the SJCE program that supplies 100 percent carbon-free electricity (San Jose 2020b).

The applicant has the option of choosing the level of renewables in the electricity supply by purchasing energy through different programs offered by either PG&E or SJCE. The SJDC project applicant offers to purchase electricity from SJCE instead of PG&E (Jacobs 2021o, pg. 3.8-13). To ensure that the applicant's proposal is consistent with the "Renewable Energy Development" objectives of the 2030 GHGRS, the project's participation in SJCE would need to occur at the Total Green level or the project would need to establish a 100 percent carbon-free electricity supply from PG&E. The alternative to PG&E through SJCE would involve the project electing to participate at the Total Green level. Participating at the Total Green level would allow the project to comply with the renewable energy development component of the City's 2030 GHGRS. Therefore, staff proposes **GHG-2** to require the project owner to participate in SJCE at the Total Green level, or negotiate an electricity contract with SJCE that accomplishes the same goals as the Total Green level, to ensure compliance with the City's 2030 Greenhouse Gas Emissions Reduction Strategy.

City of San Jose Private Sector Green Building Policy. The project proposes to 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 2019 Energy Efficiency Standards requirements, and the 2019 California Green Building Standards Code, commonly referred to as CALGreen (Title 24, Part 11 of the California Code of Regulations) (Jacobs 2021o, page 3.8-11). The City's Private Sector Green Building Policy would also require the project to be designed to achieve a minimum of LEED Silver certification.

City of San Jose, Natural Gas Infrastructure Prohibition. The project application included a guarantee that the natural gas-fired engines would achieve the Air Resources Board's DG Certification standards and thus be exempt from the "reach code" as a distributed energy resource (Jacobs 2021t; Response to Data Request 66, TN 240082). Additionally, the natural gas-fired engines may qualify for exemption as being necessary to support the industrial "process load" of the data center, and the natural gas-fired engines would not be related to the space conditioning, lighting, service water heating, or ventilating of a building as it relates to human occupancy (Municipal Code Section 17.845.045). Natural gas proposed for comfort heating of the data center buildings would be banned under this prohibition. The applicant would need to use another fuel source for comfort heating, such as electricity.

Conclusion

With implementation of the efficiency measures to be incorporated into the project and implementation of **GHG-2**, project-related GHG emissions would not conflict with any applicable plans and policies adopted to reduce GHG emissions and would comply with all regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The impact related to potential conflicts with an applicable plan, policy or regulation for GHG reductions would be less than significant with mitigation incorporated.

4.8.3 Mitigation Measures

GHG-1: The project owner shall exclusively use renewable natural gas and renewable diesel in the natural-gas fired and diesel-fired generators, which may require securing renewable fuel from PG&E and other suppliers. The project owner shall provide documentation to the Director or Director's designee with the City of San Jose Planning, Building and Code Enforcement (PBCE) to verify that renewable fuels are used for 100 percent of total energy use by the generators upon commencing operation of the project.

GHG-2:

- The project owner shall participate in the San Jose Clean Energy (SJCE) at the Total Green level (i.e., 100 percent carbon-free electricity) for electricity accounts associated with the project, or shall negotiate an electricity contract with SJCE that accomplishes the same goals as the Total Green level, to ensure compliance with the City's 2030 Greenhouse Gas Emissions Reduction Strategy.
- The project owner shall provide documentation to the Director or Director's designee with the City of San Jose Planning, Building and Code Enforcement (PBCE) of enrollment and annual reporting of continued participation in the SJCE Total Green level. If not enrolled in SJCE Total Green level, the project owner shall provide documentation and annual reporting to the Director or Director's designee with the City of San Jose PBCD that confirms that alternative measures achieve the same

100 percent carbon free electricity as the SJCE Total Green level, with verification by a qualified third-party auditor specializing in greenhouse gas emissions.

- During operation, the project owner shall submit annual reports to the Director or Director's designee with the City of San Jose PCBE documenting either continued participation in SJCE at the Total Green level or documentation that alternative measures continue to provide 100 percent carbon-free electricity, as verified by an independent third-party auditor specializing in greenhouse gas emissions.

4.8.4 References

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4.9 Hazards and Hazardous Materials

This section describes the environmental setting and regulatory background 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.

4.9.1 Environmental Setting

Hazardous Waste and Substances Sites

The project owner hired Cornerstone Earth Group, Inc. (Cornerstone) 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 Cornerstone included within the Phase 1 ESA a search through 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. Cornerstone included searches of the State Water Resources Control Board's (SWRCB), GeoTracker database, and the California Department of Toxic Substance Control's (DTSC) EnviroStor database.

The site was used for agricultural purposes starting in 1923 when the site was planted with orchards and replaced with row crops in 1985. Since 2000, the site has been fallow. There were two vacant residences and a storage shed/warehouse on the project site; however, they were demolished in 2021 after a fire substantially damaged and thus significantly affected the safety of one of the dwellings.

Past environmental work at the site included the removal of a 3,000 gallon gasoline underground storage tank (UST) in 1988. Initial soil sampling results indicated residual total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene and xylenes contamination in the 3,000 gallon UST excavation. In December 1991, three groundwater wells were installed in the former 3,000 gallon UST area. No gasoline, benzene, toluene, ethylbenzene and xylenes compounds were detected in the soil samples from the well borings, nor were the compounds detected in any of the groundwater samples collected over four consecutive quarters. The Santa Clara Valley Water District (SCWVD) issued a closure letter for the release from the UST stating that no further action was required and the low levels of contaminants in the on-site soil had not resulted in adverse groundwater impact. The three on-site monitoring wells in the former 3,000 gallon UST area were abandoned under permit from the SCVWD in 1998.

Cornerstone conducted a limited subsurface investigation of the site that included 72 soil samples from 38 locations on the project site using a combination of hand sampling and direct push drilling equipment. The subsurface investigation focused the potential for lead paint soil contamination around existing structures and pesticide contamination in agricultural fields. Several organochlorine pesticides were detected in the soil samples at levels less than their residential screening criteria except for 4, 4' Dichlorodiphenyldichloroethylene (DDE), 4,4'Dichlorodiphenyltrichloroethane (DDT), chlordane, and dieldrin. Lead was also detected in several soil samples above both the residential and commercial screening criteria. Arsenic concentrations exceeded the toxicity-based screening levels and regional natural background concentrations. Elevated concentration of lead and arsenic were detected at the greatest frequency and magnitude in the soil samples likely associated with the prior agricultural uses of the property.

Airports

There are no public or active private airports located within 2 miles of the project. The nearest airports are the Norman Y. Mineta San Jose International Airport and Moffat Federal Airport. The Norman Y. Mineta San Jose International Airport is located approximately 3.4 miles south of the project site and the Moffat Federal Airfield is approximately 5.9 miles west of the project site.

Schools

There are no schools within 0.25 mile of the project site. The closest school is the Anthony Spangler Elementary School, which is approximately 0.80 miles east of the project.

Emergency Evacuation Routes

The Santa Clara Local Hazard Mitigation Plan (Santa Clara County 2017) and the San Jose Emergency Operations Base Plan (San Jose 2019) identify hazards and provide risk assessments for the potential natural hazards that could impact the city and the county. The plans do not identify any designated evacuation routes near the project site.

Wildfire Hazards

The California Department of Forestry and Fire Protection (Cal Fire) 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 project would be located within Santa Clara County.

The Cal Fire maps for Santa Clara County (Cal Fire 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 4.19 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, which defines a hazardous material.

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 soils or groundwater at a contaminated site do not have the characteristics required to be defined as hazardous wastes, 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 United States Environmental Protection Agency (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 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 (DOT) is the primary federal agency responsible for regulating the proper handling and storage of hazardous materials during transportation (49 C.F.R. §§ 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 (Cal EPA), 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 Cal EPA "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. Cal EPA 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 Cal EPA 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).

The Aboveground Petroleum Storage Act Program. The aboveground program requires tank facilities storing greater than 1,320 gallons of petroleum that stores any amount of petroleum, to develop and implement the Spill Prevention Control and Countermeasures (SPCC) Plan requirements (CFR 2021). A tank facility is any tank or tanks that are aboveground, including connected piping, that contain petroleum and are used by an owner or operator at a single location or site, is in secondary containment, and it is used to hold oil. The CUPA regulates businesses storing petroleum in aboveground containers or tanks. (California Health & Safety Code, Chapter 6.67, Sections 25270-25270.13)

Local

City of San Jose General Plan. *Envision San Jose 2040 General Plan* includes policies applicable to all development projects in San Jose The following are applicable to the proposed project:

- Policy EC-7.1: For development and redevelopment projects, require evaluation of the proposed site's historical and present uses to determine if any potential environmental conditions exist that could adversely impact the community or environment.
- Policy EC-7.2: Identify existing soil, soil vapor, groundwater, and indoor air contamination and mitigation for identified human health and environmental hazards to future users and provide as part of the environmental review process for all development and redevelopment projects. Mitigation measures for soil, soil vapor, and groundwater contamination shall be designed to avoid adverse human health or environmental risk, in conformance with regional, State, and Federal laws, regulations, guidelines, and standards.
- Policy EC-7.3: Where a property is located in near proximity of known groundwater contamination with volatile organic compounds or within 1,000 feet of an active or inactive landfill, evaluate and mitigate the potential for indoor air intrusion of hazardous compounds to the satisfaction of the City's Environmental Compliance Officer and appropriate regional, state and federal agencies prior to approval of a development or redevelopment project.
- Policy EC-7.4: On redevelopment sites, determine the presence of hazardous building materials during the environmental review process or prior to project approval. Mitigation and remediation of hazardous building materials, such as lead-paint and asbestos-containing materials, shall be implemented in accordance with state and federal laws and regulations.
- Policy EC-7.5: On development and redevelopment sites, require all sources of imported fill to have adequate documentation that it is clean and free of contamination and/or acceptable for the proposed land use considering appropriate environmental screening levels for contaminants. Disposal of groundwater from excavations on construction sites shall comply with local, regional, and state requirements.

Alviso Master Plan. The Alviso Master Plan includes policies applicable to all development projects within the plan area. The following are applicable to the proposed project:

- Industrial/Non-Industrial Relationships Policy 1: Industrial uses are not allowed to store, handle, dispose, and/or use acutely hazardous materials within one-quarter mile of residential uses, George Mayne School, New Chicago Marsh (I.e., National Wildlife Refuge) and other sensitive uses and habitats.

- Industrial/Non-Industrial Relationships Policy 2: The Light Industrial areas located north of State Street and adjacent to Coyote Creek should mitigate potential negative environmental impacts to nearby natural resources.

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.

San Jose City Emergency Operation Base Plan. The plan establishes the foundational policies and procedures that define how San Jose will prepare for, respond to, recover from, and mitigate against natural or human-caused disasters. It provides a description of the emergency management organization and how it is activated.

4.9-2 Environmental Impacts

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

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, the two administrative diesel-fired generator fuel tanks would have to be filled. The transportation of the diesel fuel to the site would take a few 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 program 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 C.F.R. 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

Less Than Significant Impact. The project would consist of 224 renewable natural gas-fired generators, each with a standby capacity of 1.5 MW and two administrative diesel-fired generators, rated 1.25 MW and 0.5 MW.

The natural gas supply to SJDC would be provided by Pacific Gas and Electric (PG&E) via two independent pipeline interconnections; one to natural gas line 101 and another to line 109, both located near the southern portion of the project site. For reference, see **Figure 3-2** in Section 3 Project Description. The two natural gas supply lines are supplied from different parts of the PG&E natural gas system providing a high level of redundancy and resiliency. A new gas metering station would be constructed south of the site to serve the new SJDC. Natural gas would be supplied to the gas-fired generators only in the event of an emergency or utility outages to provide electrical power to support data center uses.

In addition, natural gas would also be used for comfort heating in the data center buildings. Diesel fuel would be used during routine testing and maintenance, and emergencies, if they occurred for the two diesel-fired administrative generators. Each generator would be run once a month for approximately 25 minutes with 100 percent load on the engine. The monthly load tests would result in the tanks to be refilled approximately twice a year. The project applicant anticipates having one fuel truck delivery every three months which would fill each diesel-fired administrative generator to 85 percent full.

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 filtration system would be inspected quarterly, and a fuel sample would be collected for testing. The fuel filters would be replaced as needed or annually which would reduce any effects of fuel degradation on engine components and operation. Commercial diesel fuels also contain biocides that prevent microbial growth and additives that help to stabilize the fuel for several months.

These two Tier 4 diesel-fired administrative generators would use selective catalytic reduction (SCR) that injects a liquid-reductant through a special catalyst into the exhaust stream of the diesel engine. The reductant source would be called diesel exhaust fluid (DEF) which is a non-hazardous solution of 67.5 percent water and 32.5 percent automotive grade urea. The DEF consumption would vary depending upon the environment, operation, and duty cycle of equipment. The 1.25 MW administrative diesel-fired generator consumes 5.1 gallons of DEF per hour or 214 gallons per year. The 0.5 MW diesel-fired generator consumes 1.7 gallons of DEF per hour or 71 gallons per year, for a combined 285 gallons per year for both generators. The DEF tank levels would be monitored and refilled once every three months.

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.

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

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 small amount of diesel fuel would be stored on-site, its storage would be stored in fuel tanks beneath each generator. The 500-kW and 1,250-kW administrative diesel-fired generators would have a storage capacity of 2,000 gallons and 4,800 gallons respectively.

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 alarm system in the security office that would alert personnel if a leak were detected in any of the inner tanks. The above design features would ensure that the diesel fuel generators meet the secondary containment requirements of the California Health and Safety code for the above ground petroleum storage tank program.

Deliveries of diesel fuel by tanker truck during the project's operation would be scheduled approximately every three months. As a standard safety practice, diesel tanker trucks would use wheel chocks to prevent the truck from moving before complete disconnection of the transfer lines (Jacobs 2019a, Section 3.9). An emergency pump shut-off would be available in case a pump hose breaks during the fueling. In addition, a temporary spill catch basin would be located at the fill port of each belly tank during refilling.

While natural gas would be used in significant quantities serving the 224 generators, it would not be stored on site. Natural gas poses a fire risk because of its flammability. Natural gas is composed of methane, which is colorless, odorless, tasteless, and lighter than air – odorant is added to the natural gas to make even small quantities easily detected. Methane is flammable when mixed in air at concentrations of 5-14 percent. Natural gas, therefore, poses a risk of fire if a release occurs under certain specific conditions.

The risk of a fire on site would be reduced to insignificant levels through adherence to applicable California Building codes. In the event of an earthquake or accident, the emergency gas shutoff valves installed on each natural gas supply line at the point of gas transfer from PG&E in the gas metering yard would shut off the supply of natural gas to the site. The emergency gas shutoff valves would only be triggered in the event of a pressure loss or an earthquake that triggered the shutoff valves. The emergency gas shutoff valves would electronically communicate with SJDC operators who can monitor and close the valves remotely in the case of an accident. In addition, each natural gas-fired generator includes a natural gas leak detector, which in the event natural gas is detected, an isolation valve would automatically close on the gas connection to the generators.

With the above listed safety features and precautions, the project impacts would be less than significant.

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, there are no hazardous materials that would be emitted from the site at rates capable of creating offsite impacts. Therefore, there would be no impact.

Operation

No Impact. There are no schools located or proposed within 0.25 mile of the project site. Therefore, no impact from routine maintenance or operation 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 with Mitigation Incorporated. 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. Cornerstone's limited subsurface investigation conducted during the Phase 1 Environmental Site Assessment found four organochlorine pesticides (4, 4'-DDE, 4,4'-DDT, chlordane, and dieldrin) that were above the residential screening criteria. In addition, elevated concentrations of lead were found to be above the commercial screening criteria. Elevated concentrations of arsenic were found that exceeded the toxicity-based screening levels.

Ground disturbing activities associated with the removal of underground utilities, and construction of the project would have the potential to encounter the identified contaminated soil. The applicant proposed several measures to reduce potential impacts associated with contaminated soil. Staff evaluated these measures in the context of the potential impacts and concludes that these measures are sufficient. The measures require the preparation of a Site Management Plan (SMP) and Health and Safety Plan (HSP) to reduce impacts associated with encountering contaminated soil.

Staff proposes mitigation measures requiring the preparation of a SMP to establish proper procedures to be taken when contaminated soil is found and how to dispose of the contaminated soil properly (**HAZ-1**) and a HSP to establish provisions for personal protection and procedures in the event that contaminated soil is encountered (**HAZ-2**). Staff concludes that with implementation of **HAZ-1** and **HAZ-2**, impacts to the public or the environment due to contaminated soils, would be reduced to a less than significant level.

Operation

No Impact. Operation and maintenance activities would not involve excavation activities and would therefore have no impact.

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

No Impact. There are no public or private airports within 2 miles of the project and the project does not fall within an airport land use plan. Therefore, the project would not pose a safety hazard and would have no impact. Project construction would not result in excessive noise impacts for people residing or working in the project area, as described in a more detailed analysis in **Section 4.13 Noise**.

Operation

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 be large enough to pose a safety hazard to any aircraft near the Norman Y. Mineta San Jose International Airport or Moffat Federal Airport. Detailed analysis of potential thermal plume impacts is contained in **Section 4.17 Transportation**.

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* and the San Jose *Emergency Operations Base Plan* for the project revealed no specific mapping or delineation of emergency evacuation or access routes. The plans identified 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

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 a LRA, indicating that the project site has a less than moderate susceptibility to wildland fires. The project site is not adjacent to wildlands. Industrial and commercial buildings bound the project to the west and east. Highway 237 bounds the project to the south. The San Jose-Santa Clara Regional Wastewater Facility sludge drying fields lie to the north of the project. 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

No Impact. The project site is located within an un-zoned Fire Hazard Severity Zone and for the reasons stated in the construction section above, there would be no impact from wildland fires.

4.9.3 Mitigation Measures

HAZ-1: A Site Management Plan (SMP) shall be prepared and implemented and any contaminated soils found in concentrations above established thresholds shall be removed and disposed of according to California Hazardous Waste Regulations or the contaminated portions of the site shall be capped beneath the planned development under the regulatory oversight of the Santa Clara County Hazardous Materials Compliance Division (HMCD) or the California Department of Toxic Substances Control (DTSC). The contaminated soil removed from the site shall be hauled off-site and disposed of at a licensed hazardous materials disposal site.

Components of the SMP shall include, but shall not be limited to:

- A detailed discussion of the site background;
- Preparation of a Health and Safety Plan by an industrial hygienist;
- Notification procedures if previously undiscovered significantly impacted soil or free fuel product is encountered during construction;
- Onsite soil reuse guidelines based on the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region’s reuse policy;
- 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.

HAZ-2: All contractors and subcontractors at the project site shall develop a Health and Safety Plan (HSP) specific to their scope of work and based upon the known environmental conditions for the site. The HSP shall be approved by the Director or Director's designee with the City of San Jose Department of Planning, Building and Code Enforcement (PBCE) and the City of San Jose Environmental Services Department (ESD) and implemented under the direction of a Site Safety and Health Officer.

The HSP shall include, but shall not be limited to, the following elements, as applicable:

- Provisions for personal protection and monitoring exposure to construction workers;
- Procedures to be undertaken in the event that contamination is identified above action levels or previously unknown contamination is discovered;
- Procedures for the safe storage, stockpiling, and disposal of contaminated soils;
- Provisions for the onsite management and/or treatment of contaminated groundwater during extraction or dewatering activities; and
- Emergency procedures and responsible personnel.

The SMP shall be submitted to HMCD, DTSC, or equivalent regulatory agency for review and approval. Copies of the approved SMP shall be provided to the PBCE Supervising Environmental Planner and Environmental Services Department (ESD) prior to issuance of grading permits.

4.9.4 References

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4.10 Hydrology and Water Quality

This section describes the environmental setting and regulatory background 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

4.10.1 Environmental Setting

Storm Drainage and Water Quality

The project would be constructed in the city of San Jose, within the Baylands watershed. The Baylands watershed drains to the San Francisco Bay, located just north of the proposed project site. The site is located east of the Guadalupe River and west of Coyote Creek. Storm water from the project site drains into Coyote Creek, which discharges to the San Francisco Bay.

The site was previously used for agriculture, but is currently fallow. The site is mostly pervious to infiltration of surface water. The water quality of Coyote Creek is influenced by pollutants contained in storm water runoff from the site. Storm water runoff from agricultural sites often contain pollutants such as sediment, metals, pesticides, herbicides, oil, grease, asbestos, lead, and animal wastes.

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 about 5 feet below ground surface (bgs) (CGS 2001).

Flooding

The elevation of the existing project site is between 5 and 15 feet above the 1988 North American Vertical Datum (NAVD88) (USGS 2015). According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) 06085C0066J, effective February 19, 2014, the project site is located within Zone X. 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 depths 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.

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 2020).

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. Coyote Creek, east of the project site, is currently listed on the United States Environmental Protection Agency's Section 303(d) Listed Waters for California for diazinon and trash.

The San Francisco Bay RWQCB issued a Municipal Regional Storm Water NPDES Permit (Permit Number CAS612008) that requires the city of San Jose to implement a storm water quality protection program. This regional permit applies to 77 Bay Area municipalities, including the city of San Jose. 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 treatment controls, such as biotreatment facilities.

The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) assists co-permittees, such as the city of San Jose, 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 (per the city of San Jose Hydromodification Management Map). The project site is located in a catchment area with a hardened channel or drains to a 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 a probability of occurrence of one percent in any given year. This flood is also known as the 100-year flood, or base flood. FIRM, the official map created and distributed by 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.

As stated above, the proposed project site is located in Zone X and therefore protected by levees to avoid the one percent annual chance of flood.

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 San Jose Municipal Code. Chapter 17.08 (special flood hazard area regulations) of the San Jose Municipal Code promotes the public health, safety, and general welfare, to minimize public and private losses due to flood conditions in specific areas by legally enforceable regulations applied uniformly throughout the community to all publicly and privately owned land within flood prone areas.

City of San Jose Post-Construction Urban Runoff Management. City Policy No. 6-29 implements the storm water treatment requirements of Provision C.3 of the Municipal NPDES Permit. The same policy requires all new and redevelopment projects regardless of size and land use to implement post-construction Best Management Practices (BMPs) and Treatment Control Measures (TCMs) to the maximum extent practicable. This policy also established specific design standards for post-construction TCMs for projects that create, add, or replace 10,000 square feet or more of impervious surface area to use site design and source control measures and numerically-sized low impact development storm water treatment measures in accordance with the strategies set forth in the policy.

City of San Jose Hydromodification Management. City Policy No. 8-14 implements the storm water treatment requirements of Provision C.3 of the Municipal NPDES Permit. Policy No. 8-14 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. The policy requires these projects to be designed to control project-related hydromodification through a Hydromodification Management Plan (HMP).

4.10.2 Environmental Impacts

a. Would the project violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction and Operation

Less Than Significant Impact. The proposed project would include about 64.5 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 construction 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 could potentially excavate soil at the existing site to a maximum depth of 65 feet below grade. It is therefore possible the project would encounter groundwater during excavation activities. It is therefore possible that dewatering would be necessary during construction. If dewatering is necessary, and the discharge is found to be uncontaminated, the project owner would be allowed to discharge dewatering water to waters of the US, within the San Francisco RWQCB's jurisdiction, under the Construction General Permit. If the discharge is found to be contaminated, a special permit would be necessary depending on the nature of the contamination, requiring the applicant to treat the water before discharging, or haul away the untreated water by a permitted service provider.

Under existing conditions, the site has approximately 43,000 square feet of impervious surface. Implementation of the project would result in a 40- to 50-fold increase in site impervious surface. The increase in impervious surface area would result in an increase in storm water runoff generated from the project site, which could impact water quality, unless appropriate measures are taken to mitigate the potential increase in stormwater runoff. The project would be required to comply with the city of San Jose's Post-Construction Urban Runoff Policy No. 6-29, Municipal NPDES Permit, and the SCVURPPP. The plans and permits work together to establish specific requirements to reduce storm water pollution from new and redevelopment projects. They also require post-construction storm water runoff to be treated by appropriately sized low impact development treatment controls.

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.

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 and Operation

Less Than Significant Impact. The project is in the San Jose Municipal Water System's (SJMWS) North San Jose/Alviso service area. Potable water supply for this area is wholesale water purchased from the San Francisco Public Utilities Commission (SFPUC) with a backup supply available from locally produced groundwater. Recycled water to the site would be obtained from the South Bay Water Recycling (SBWR) system.

The potable water supply to the project would not likely be from a groundwater source. Additionally, the city's water supply analysis for the 237 Industrial Center project draft environmental impact report (San Jose 2017a) showed that the city had sufficient supply to meet that project's potable water demand of approximately 130 AFY and recycled water demand of 1,673 AFY (San Jose 2017b). Revised data submitted by the applicant in response to staff Data Request set # 6 show that demand for the proposed project would be approximately 1.0 AFY of potable water and 423 AFY of recycled water (Jacobs 2021y). The proposed project's demand for both potable water and recycled water would be a substantial reduction relative to the prior project's use which was demonstrated in a Water Supply Assessment to not significantly impact ground water supplies (San Jose 2017b).

The city of San Jose's 2020 UWMP shows that the city would have a potable water deficit in a multiple dry year scenario, which 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. If supply from SFPUC is interrupted, the city would have to replace the demand using groundwater supplied by the San Jose Municipal Water System (SJMWS) (San Jose 2021).

According to the city of San Jose's 2020 UWMP, the groundwater basin has been managed successfully by the SCVWD 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 (San Jose 2021). The project's impact on groundwater supplies or recharge during construction and operation would therefore be less than significant.

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 and Operation

Less Than Significant Impact. The existing site is almost completely pervious. The proposed project would result in an increase of impervious areas but would also include a new storm water collection system that would incorporate source and treatment control 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 substantially increase runoff (rate or volume) from the site. The storm water design is expected to comply with the SCVURPPP. Therefore, impacts would be less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Construction and Operation

Less Than Significant Impact. Surface runoff from the proposed project would be controlled as described in criterion "a" and "c(i)" above. Therefore, impacts would be less than significant.

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 and Operation

Less Than Significant Impact. The proposed project would result in a new storm water collection system that includes BMPs to mitigate for any increases in runoff to the city's collection system. The discharge of polluted runoff from the site is not expected to be greater than what is expected under existing conditions. Therefore, impacts would be less than significant.

iv. Impede or redirect flood flows?

Construction and Operation

Less Than Significant Impact. According to the FEMA FIRM 06085C0066J, effective February 19, 2014, 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 depths 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 2020).

The proposed project also would not be expected to add significantly to the existing potential of the site to impede or redirect flood flows because the topography in the general vicinity of the site is flat with no restriction to flow. Therefore, significant obstruction of floods is not expected from the proposed project and the impacts would be less than significant.

d. Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Construction and Operation

Less Than Significant Impact. Though the site is located near the Guadalupe River and 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 2020).

The project site is located within the Anderson Dam failure inundation zone. The California Division of Safety of Dams is responsible for inspecting dams on an annual basis to ensure the dams are safe, performing as intended and not prone to developing problems. As part of its comprehensive dam safety program, the SCVWD routinely monitors and studies the condition of each of its ten dams, including Anderson Dam. The city of San Jose's General Plan concludes that new development and redevelopment under the General Plan could result in placement of new development in Special Flood Hazard Areas and dam failure inundation zones; however, implementation of the city's policies and regulations would substantially reduce flooding and drainage hazards (SCVWD 2016).

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. Additionally, according the California Emergency Management Agency the site is not within a tsunami inundation zone (CEMA 2009).

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.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Construction and Operation

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, preparation of a construction SWPPP, and through the implementation of post-construction BMPs, as described in criteria "a" above. 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 San Jose's Urban Water Management Plan (UWMP) about groundwater supplies. Therefore, it is reasonable to rely on the UWMP to evaluate how a proposed project would impact the implementation of the sustainable groundwater management plan. The city of San Jose's UWMP for 2021 shows that it has sufficient supply to meet the project's demand of 1.0 AFY of potable water in normal and single dry year scenarios. 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 would be interrupted if certain conditions specified in the interruptible contract between the city and SFPUC are met. If the supply from SFPUC is interrupted the city would have to replace the demand using groundwater (San Jose 2021).

According to the city of San Jose's 2020 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 (San Jose 2021). 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.

4.10.3 Mitigation Measures

None.

4.10.4 References

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4.11 Land Use and Planning

This section describes the environmental setting and regulatory background 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.

4.11.1 Environmental Setting

The approximately 65-acre project site is located in the northern portion of the City of San Jose (City). The two vacant residences and the storage shed/warehouse that were on the project site were demolished in 2021 after a fire substantially damaged and thus significantly affected the safety of one of the dwellings. State Route (SR) 237 borders the southern edge of the project site; existing developments directly across SR 237 to the south include technical equipment manufacturing and computer hardware businesses. PG&E's Los Esteros Substation and the Los Esteros Critical Energy Facility abut the project site to the west. The sludge drying beds associated with the San Jose-Santa Clara Regional Wastewater Facility are located north of the site. Coyote Creek runs along the east side of the site. The Norman Y. Mineta San Jose International Airport is located approximately 3½ miles south-southwest 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

City of San Jose General Plan. *Envision San Jose 2040 General Plan* (General Plan) shows that the project site is within an area designated as LI (Light Industrial) on the General Plan land use map. The General Plan states: "This designation is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. Warehousing, wholesaling, and light manufacturing are examples of typical uses in this designation. Light Industrial designated properties may also contain service establishments that serve only employees of businesses located in the immediate industrial area. Office and higher-end industrial uses, such as research and development, are discouraged in order to preserve the scarce, lower cost land resources that are available for companies with limited operation history (start-up companies) or lower cost industrial operations. Because of the limited supply of land available for industrial/suppliers/services firms in the City, Land Use Policies in the General Plan restrict land use changes on sites designated Light Industrial."

The General Plan allows a maximum floor area ratio (FAR) of 1.5 for properties designated as Light Industrial, and buildings can have one to three stories (San Jose 2020).

The General Plan designates areas west and south of the project site as Industrial Park, Combined Industrial/Commercial, and Light Industrial. An extensive area north of the site is designated PQP, Public/Quasi-Public; this area includes the San Jose-Santa Clara Regional Wastewater Facility. The General Plan designates an area bordering Coyote Creek immediately northeast of the project site as Open Space, Parklands, and Habitat. The nearest residential developments are approximately three-quarter mile from the project site, including an area designated Urban Residential that is southwest of the site, on the south side of SR 237.

The General Plan contains land use policies pertaining to preserving industrial uses, including the following:

- LU-6.2 – Prohibit encroachment of incompatible uses into industrial lands, and prohibit non-industrial uses which would result in the imposition of additional operational restrictions and/or mitigation requirements on industrial users due to land use incompatibility issues.
- LU-6.3 – When new uses are proposed in proximity to existing industrial uses, incorporate measures within the new use to minimize its negative impacts on existing nearby land uses and to promote the health and safety of individuals at the new development site.
- LU-6.4 – Encourage the development of new industrial areas and the redevelopment of existing older or marginal industrial areas with new industrial uses, particularly in locations which facilitate efficient commute patterns. Use available public financing to provide necessary infrastructure improvements as one means of encouraging this economic development and revitalization.

Alviso Master Plan, A Specific Plan for the Alviso Community. The project site is within the Alviso Planning Area, which covers the area within the City limits north of SR 237. The Alviso Master Plan is incorporated into the General Plan as the Alviso Planned Community (San Jose 2020). Consistent with the General Plan, the land use designation for the project site is Light Industrial (San Jose 2016). The Alviso Master Plan intends to provide "[a]n economic development strategy…for strengthening existing businesses and providing opportunities for new businesses in Alviso." For areas designated as Light Industrial, only low intensity uses are allowed in the Light Industrial area located near Coyote Creek.

The Alviso Master Plan includes an "Industrial/Non-industrial Relationships Objective," specifying that "[s]etbacks and buffers should be established to protect environmental resources (e.g., Coyote Creek)… from potential negative impacts of industrial use" (San Jose 2016).

In November 2001, the City adopted a General Plan text amendment to the Alviso Master Plan (File No. GP01-T-05) to allow an increase in maximum building height from 50 to 100 feet for facilities previously proposed at the US DataPort campus, a 140-acre site north of SR 237 and approximately 2,000 feet east of Zanker Road. The City certified the environmental impact report prepared on the US DataPort project (City Council Resolution No. 70259), but the project was never constructed. The proposed project is located within the original 140-acre site.

City of San Jose Zoning Code. The project site is in the LI (Light Industrial) zoning district, which is "intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects…. Examples of typical uses are warehousing, wholesaling, and light manufacturing" (San Jose 2021, § 20.50.010, subd. (C)(4)). Data centers on properties in the Light Industrial zoning district require a Special Use Permit (San Jose 2021, § 20.50.100, subd. (E); Table 20-110).

The City's development standards for the Light Industrial zoning district specify a front building setback of 15 feet to lot boundaries abutting streets (San Jose 2021, § 20.50.200, Table 20-120). Side and rear setbacks for buildings and structures to lot boundaries not abutting streets is zero unless the property abuts a residential district. The parking setback to lot boundaries is 20 feet (San Jose 2021).

Development standards in the Light Industrial zoning district specify a maximum height of 50 feet unless a different maximum is established in Chapter 20.85, "Specific Height Restrictions," which allows a specific plan document to govern and control the maximum height within the specific plan area, except for a residential structure located in a residential zoning district. (San Jose 2021, § 20.50.200, Table 20-120; § 20.85.010, subd. (C)(2)). As discussed above, the City adopted a General Plan text amendment to the Alviso Master Plan in 2001 to allow a maximum building height of 100 feet on properties that include the proposed project site.

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 close to 2 miles from the closest boundary of 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" (Santa Clara County 2016). The project site is not located within any of the Airport Safety Zones. Because the project site is outside of the AIA, CLUP policies do not apply to the project. Therefore, the Land Use and Planning analysis contains no further discussion of the CLUP for the San Jose International Airport.

4.11.2 Environmental Impacts

a. Would the project physically divide an established community?

Construction and Operation

No Impact. The San Jose Data Center would be constructed and operated on a single parcel of land in an area that was largely in agricultural use through the 1990s. The parcel boundaries would remain the same with the project. Construction activities would occur mostly onsite and not in the public right-of-way, with the exceptions of: a Class I Bikeway Trail extension connecting the existing trail Coyote Creek segment to the new Nortech Parkway extension; interconnection to water and transmission lines west of the project site; two independent natural gas pipelines (approximately 75 feet in length) at the southern border of the project; several roadway improvements along Zanker Road; and the Nortech Parkway road extension, which would provide direct access to the project site as well as to adjacent undeveloped parcels. For additional details regarding these improvements see **Section 4.17 Transportation**. The closest community is Alviso, located approximately 1½ miles west of the project site. No changes are proposed involving construction of new off-site facilities that could physically divide the Alviso community. Therefore, project construction and operation 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 and Operation

Less Than Significant Impact. As discussed in the subsections that follow, construction and operation of the project would not conflict with land use plans or policies such that significant environmental impacts would occur. Impacts would be less than significant.

City of San Jose General Plan and Alviso Master Plan. The project site is in an area with the General Plan land use designation of Light Industrial, which is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. Typical uses include warehousing, wholesaling, and light manufacturing (San Jose 2020). The proposed project would be consistent with the description of uses allowed in areas with this land use designation, and it would not involve uses that could cause unmitigated hazardous or nuisance impacts. (**Sections 4.3 Air Quality**, **4.9 Hazards**

and Hazardous Materials, and **4.17 Transportation** of this environmental impact report evaluate the proposed project's potential effects relating to nuisance effects and hazards.) The project would be consistent with land use policies addressing industrial preservation because it establishes an industrial land use on the site while minimizing negative impacts on nearby uses. Therefore, no conflicts with plans or policies would occur.

Floor area ratio (FAR) is a tool for local governments to predict and limit the intensity of land uses and their resulting environmental impacts. The FAR 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 FAR could cause environmental impacts relating to increased vehicle miles travelled, or VMT. The project's building square footage would be approximately 396,914 gross square feet. The lot area is approximately 66.5 acres, or approximately 2,897,000 square feet. Using these values, staff calculated FAR to be approximately 0.14, which is below the General Plan's maximum FAR of 1.5 for properties designated as Light Industrial. Buildings can have one to three stories in Light Industrial designated areas, and consistent with this requirement, the proposed project's two data center buildings would each be single-story structures. Therefore, no conflict with the FAR regulation or the allowable number of building stories would occur. (See **Section 4.17 Transportation** for an analysis of the project's potential impacts on transportation using the VMT metric.)

For areas designated as Light Industrial near Coyote Creek, the Alviso Master Plan allows only low intensity uses. The General Plan specifies a FAR of up to 4.5 for areas designated Mixed Use Commercial, with the upper limit "allowing for a medium intensity of development" (San Jose 2020). Similarly, areas designated as Urban Residential have a FAR of up to 4.0, which applies to areas "limited to a medium intensity" of development. The Light Industrial and Heavy Industrial land use designations each have a FAR of up to 1.5, which is at the low end of the City's allowable development densities. With a FAR of 0.14, the proposed project would have a very low development density; therefore, the project would be consistent with the requirement for low intensity uses specified in the Alviso Master Plan.

As part of its "Industrial/Non-industrial Relationships Objective," the Alviso Master Plan specifies a requirement for setbacks and buffers to protect resources such as Coyote Creek. The project incorporates a 100-foot buffer from the Coyote Creek levee into the project design to comply with riparian setback requirements. (See **Section 4.4 Biological Resources** for an analysis of the proposed project's potential effects on those resources.)

The proposed project's two, single-story data center buildings would have a roof height of approximately 27 feet above ground level. The rooftop mechanical equipment would bring the height of the data center buildings to approximately 31 feet above ground level. The City's 2001 amendment to the Alviso Master Plan increased the maximum allowable building height to 100 feet for a 140-acre area that includes the project site (File No.

GP01-T-05). The proposed project's buildings and rooftop equipment would be below the height limit. Therefore, no conflict with the building height regulation would occur.

City of San Jose Zoning Code. The Light Industrial zoning district requires a front building setback of 15 feet to lot boundaries abutting streets (San Jose 2021, § 20.50.200, Table 20-120). The proposed project site plan shows that the building setbacks for the property boundaries adjacent to the Nortech Extension (primary site entrance and exit) and Alviso-Milpitas Road (secondary site entrance and exit) would each exceed 100 feet (Jacobs 2019a). Requirements for side and rear setbacks for buildings and structures not abutting streets is zero unless the property abuts a residential district; the property does not abut a residential district, and the closest area zoned for residential use is over 1,500 feet south of the property boundary. The requirement for parking setback to lot boundaries is 20 feet. The proposed site plan shows a distance of approximately 100 feet from the parking area to the property boundary (Jacobs 2019a). Therefore, no conflicts with the City's development standards for minimum setbacks would occur.

Use regulations for properties in the Light Industrial zoning district specify that a data center requires a Special Use Permit (San Jose 2021, § 20.50.100, subd. (E); Table 20-110). The applicant submitted its application for a Special Use Permit (SUP) to the City on November 21, 2019 and received comments from several City departments requesting revisions to the plans. The project redesign submitted to the CEC in the supplemental SPPE filing addresses these first City SUP comments. After the decision to change from diesel generators to natural gas generators, the applicant met with the City to discuss the necessary revisions to the project's SUP application. The Zoning Code specifies several "findings" that must be made by the planning director, planning commission, or city council to allow issuance of an SUP (San Jose 2021, § 20.100.820). Included in the findings is a requirement that the SUP must be consistent with the policies of the General Plan and applicable specific plans. The proposed use must not be detrimental to public health, safety, or general welfare. The proposed site must be adequate in size and shape to accommodate the development features prescribed in the City's Code of Ordinances. The project's environmental impacts, "even if insignificant for purposes of the California Environmental Quality Act, will not have an unacceptable negative affect on adjacent property or properties." Issuance of an SUP is contingent on the City's decision makers determining that the findings are satisfied. Due to this requirement, and the consistency of the project with the General Plan, Alviso Master Plan, and Zoning Code, the proposed 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. Impacts would be less than significant.

4.11.3 Mitigation Measures

None.

4.11.4 References

Jacobs 2019a – Jacobs. (TN 230741). SJC02 Data Center SPPE Application Volume 1, dated November 15, 2019. Figure 1-3 Site Plan, Figure 3.11-3 Zoning Map. Accessed on March 11, 2020. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

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San Jose 2020 – City of San Jose (San Jose). Planning, Building & Code Enforcement. *Envision San Jose 2040 General Plan*. Adopted November 1, 2011. As amended March 16, 2020. Chapter 1, page 51; Chapter 5, pages 6, 9, 10, 11, 12, 13, and 22; Chapter 6, pages 7, 11, and 12. General Plan 2040 Land Use Map. Accessed on January 8 and 13, 2020 and February 22, 2021. Available online at: https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/citywide-planning/envision-san-jos-2040-general-plan

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https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT20ZO

Santa Clara County 2016 – Santa Clara County ALUC (Santa Clara County). *Comprehensive Land Use Plan, Santa Clara County, Norman Y. Mineta San Jose International Airport*. Page 3-17 and 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 January 14, 2020. Available online at: https://www.sccgov.org/sites/dpd/Commissions/ALUC/Pages/ALUC.aspx

4.12 Mineral Resources

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

4.12.1 Environmental 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 San Jose 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 surrounding area are not known to support significant mineral resources of any type. Other than the Communication Hill Area, located about 10 miles south-southeast of the project site, which contains mineral deposits that are of regional significance as a source of constriction aggregate materials, the city of San Jose does not have mineral deposits subject to the California Surface Mining and Reclamation Act of 1975 (SMARA) (San Jose 2020). The Division of Mine Reclamation's list of mines, referred to as the Assembly Bill (AB) 3098 List and regulated under SMARA, identifies four other facilities in Santa Clara County, the closest being the Curtner Quarry located about 3.6 miles northeast of the project site (DOC 2016).

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.

Local

No local regulations related to mineral resources apply to the project.

4.12.2 Environmental Impacts

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

Construction and Operation

No Impact. The project site is in is in an area that 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 and Operation

No Impact. The project site is in an area that 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.

4.12.3 Mitigation Measures

None.

4.12.4 References

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. Available online at: https://www.conservation.ca.gov/dmr

San Jose 2020 – City of San Jose (San Jose). Envision San Jose 2040 General Plan. Adopted November 1, 2011, as amended on December 18, 2018, and updated March 16, 2020. Accessed on: February 24, 2021. Available online at: https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/citywide-planning/envision-san-jos-2040-general-plan

4.13 Noise

This section describes the environmental setting and regulatory background and discusses impacts associated with the construction and operation of the or 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.

4.13.1 Environmental Setting

The project area consists primarily of light to heavy industrial land uses. The project site zoning is Heavy Industrial. The city of San Jose has zoned data centers as a use consistent with the Light Industrial zoning designation. To the north of the project site is the Regional Wastewater Facility (RWF). Located to the west of the project site is the Los Esteros Critical Energy Facility (LECEF), and a PG&E substation. The closest sensitive receptor is a residence located about 1,600 feet across Highway 237 to the south of the project boundary. The nearest commercial receptor is located approximately 800 feet to the south of the proposed project southern boundary. The nearest airport is the Norman Y. Mineta San Jose International Airport approximately 3.4 miles southwest of the project site. The predominant ambient noise sources are attributed to the LECEF, automobile traffic on Highway 237, and aircraft arriving to and departing from the airport.

According to the Valley Transit Authority, during the third quarter of fiscal year 2020, the average daytime speeds on SR 237 between Calaveras Boulevard and McCarthy Boulevard, a stretch of freeway located directly south of the project site, ranged between 40 to 70 miles per hour (VTA 2021). Vehicles traveling at these speeds produce noise levels ranging between 67 to 76 dBA at 50 feet away—average daytime noise level is 71.5 dBA (NPC 2021).

The daytime ambient noise levels based on vehicle generated noise on SR 237 to the nearest commercial and residential receptors south of the project site would be approximately 53 dBA and 41 dBA, respectively.

Regulatory Background

Thresholds of Significance

The California Environmental Quality Act (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. Generally, an increase of 3 decibels on the A-weighted scale (dBA) is noticeable and an increase of 5 dBA is distinct. A noise level increase of more than 5 dBA would be considered potentially significant. Some local government entities, such as the city of San Jose, consider a 5-dBA increase as an impact if the resulting noise level remains within the maximum acceptable for a land use designation, while a 3-dBA increase would be an impact if the resulting noise level equals or exceeds the allowable maximum for the land use zone (San Jose 2020). Other factors, such as the frequency of occurrence of the noise and time of day/night it occurs, are also commonly considered in determining if such an increase is clearly significant or not.

There are no adopted thresholds for an increase in dBA level to be considered a significant impact for construction activities. Noise impact due to construction activities is considered to be less than significant if the construction activity is temporary and the use of heavy equipment and noisy activities is limited to daytime hours. Based on staff's experience with community reaction to increases of noise due to construction, an increase of 10 dBA or more during the day can trigger a community reaction (e.g., a receptor hearing a 10 dBA increase due to construction noise could consider this noise negatively) and can warrant additional measures to address impacts. An increase of 10 dBA corresponds to doubling of loudness or dBA level and is generally considered to be the starting point at which significant impacts may occur. The exact level of noise resulting from construction is very difficult to identify because it fluctuates based on many factors over the course of a week, day, or even hour. It also depends on other factors, such as intervening structures, land topography, and land cover. For example, intervening structures would block or impede sound waves, and undulating topography and land roughness would play a role in the attenuating the propagation of sound waves. Therefore, performance standards (i.e., a complaint and redress process) are ultimately used as a backstop measure to address any impacts that are perceived by the community.

Local

City of San Jose General Plan. *Envision San Jose General Plan 2040* (General Plan) describes the levels of exterior noise considered compatible for various land uses to guide land use planning decisions. The city's General Plan also considers a 5-dBA increase in ambient noise while it remains within allowable limits a significant impact, but if the increase would result in the noise level equaling or exceeding the allowable limit, then a 3 dBA increase is considered a significant impact. The General Plan includes policies applicable to all development projects in San Jose (San Jose 2020). The city's noise and land use compatibility guidelines are shown in **Table 4.13-1**.

TABLE 4.13-1 GENERAL PLAN'S ALLOWABLE NOISE LEVEL GUIDELINES FOR LAND USE COMPATIBILITY

Land Use Category	Maximum Acceptable Day-night Composite Noise Value (L_{dn}) in Decibels (dBA)
1. Residential, Hotels and Motels, Hospitals and Residential Care	60
2. Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	65
3. Schools, Libraries, Museums, Meeting Halls, Churches	60
4. Office Buildings, Business Commercial, and Professional Offices	70
5. Sports Arena, Outdoor Spectator Sports	70
6. Public and Quasi-Public Auditoriums, Concert Halls, Amphitheaters	70[a]

Note: a Conditionally acceptable. Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design

In addition, the General Plan lists the following policies to control noise and vibration pollution impacts:

- Policy EC-1.1: Locate new development in areas where noise levels are appropriate for the proposed uses, taking into consideration federal, state and city noise standards and guidelines.
- Policy EC-1.2: Minimize the noise impacts of new development on land uses sensitive to increased noise levels by limiting noise generation and by requiring use of noise attenuation measures such as acoustical enclosures and sound barriers, where feasible.
- Policy EC-1.3: Mitigate noise generation of new non-residential land uses to 55 dBA L_{dn} at the property line when located adjacent to existing or planned noise sensitive residential and public/quasi-public land uses.
- Policy EC-1.6: Regulate the effects of operational noise from existing and new industrial and commercial development on adjacent uses through noise standards in the City's Municipal Code.
- EC-1.7: Require construction operations within San Jose to use the best available noise suppression devices and techniques and limit construction hours near residential

use per the City's Municipal Code. The City considers significant construction noise impacts to occur if a project located within 500 feet of residential uses or 200 feet of commercial or office uses would:

- Involve substantial noise generating activities (such as building demolition, grading, excavation, pile driving, use of impact equipment, or building framing) continuing for more than 12 months. For such large or complex projects, a construction noise logistic plan that specifies hours of construction, noise and vibration minimization measures, posting or notification of construction schedules, and designation of a noise disturbance coordinator who would respond to neighborhood complaints will be required to be in place prior to the start of construction and implemented during construction to reduce noise impacts on neighboring residents and other uses.

- Policy EC-2.3: Require new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV will be used to minimize the potential for cosmetic damage to a building. A vibration limit of 0.20 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction.

City of San Jose Municipal Code. Title 20 (Zoning), Section 20.50 specifies allowable uses and activities for areas zoned or used for industrial purposes. Noise limits at the property line of a project are not allowed to exceed 55 dBA (anytime) if a residential area is adjacent to any of the project boundaries; 60 dBA if adjacent uses are commercial with no residential areas; and 70 dBA if all adjacent uses are industrial.

The Municipal Code also restricts construction hours for projects within 500 feet of a residential area to the hours of 7:00 a.m. to 7:00 p.m. on Monday through Friday, unless otherwise expressly allowed in a development permit or other planning approval. The city's Municipal Code does not establish quantitative noise limits for demolition or construction activities occurring in the city (San Jose 2021).

4.13.2 Environmental Impacts

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 with Mitigation Incorporated. Construction activities for the project would likely utilize equipment that could generate noise levels that exceed ambient noise, such as bulldozers and jackhammers. Construction noise can be significant for short periods of time at any particular location and generates the highest noise levels during grading and excavation, with lower noise levels occurring during building construction.

Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 85 to 90 dBA at a distance of 50 feet. Typical hourly average construction-generated noise levels are approximately 80 to 85 dBA measured at a distance of 50 feet from the site during busy construction periods. Some construction techniques, such as pile driving, can generate high noise levels; however, they are not anticipated to be used (Jacobs 2021p – Section 3.13.5). The loudest construction activities can elevate the existing ambient noise levels at the nearest businesses by up to 10 dBA on average for the loudest construction noise levels, that is, causing the noise level to increase to 63 dBA[1] compared to the existing ambient level of 53 dBA.

The city's Municipal Code does not establish construction noise sources in its prescribed noise level limits, but in Chapter 20.100.450, the city limits construction activities to occur during the daytime hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and prohibits construction work on weekends at sites within 500 feet of a residence unless permission is granted with a development permit or other planning approval. The project is not within 500 feet from a residential area as the closest residence is located 1,600 feet away, excavation, and construction are anticipated to occur during the daytime hours of 7:00 a.m. to 7:00 p.m. Monday through Friday (Jacobs 2019a – section 3.13.5). Furthermore, the closest commercial building is also approximately 800 feet from the southern boundary of the project site.

As discussed above, an increase of 10 dBA or more during the day can be perceived as noisy (triggering a community reaction) and warrant additional measures to address noise levels. An increase of 10 dBA corresponds to doubling of loudness or dBA level and is the starting point for significant impacts. The loudest construction activities can elevate the existing ambient noise levels at the nearest residences by up to 4 dBA—average of the loudest construction noise levels, or 57 dBA[2] compared to the existing ambient level of 53 dBA. This would not be significant.

As explained above, performance standards (i.e., a complaint and redress process) are ultimately used as a backstop measure to address any impacts that might be perceived by the community. Staff proposes **NOI-1**, requiring a complaint and redress process be implemented to ensure construction noise impacts would not be significant, as perceived by the community. The city's Code Enforcement office in San Jose Planning, Building and Code Enforcment (PBCE) Department is responsible for addressing violations of noise standards prescribed in Title 20 of the San Jose Municipal Code. If project personnel and complainant cannot reach consensus, the complainant can file a code enforcement service request online at: https://www.sanjoseca.gov/your-government/departments-offices/planning-building-code-enforcement/code-enforcement/request-service-check-status/code-service-request-form.

1 Calculated as: 87.5 dBA – 20*log (800/50) = 63 dBA
2 Calculated as: 87.5 dBA – 20*log (1600/50) = 57 dBA

With implementation of **NOI-1**, the project's construction noise impact would be less than significant.

Operation

Less Than Significant Impact. Sources of operational noise for the project would include the backup generators, rooftop mechanical equipment including HVAC and other equipment necessary for project operation. The city's General Plan Policy EC-1.6 requires existing and new industrial development to reduce the effects of operational noise on adjacent industrial uses through compliance with noise standards in the city's Municipal Code (Sections 20.40.600 and 20.50.300). Using noise characteristics for the gas generators, staff performed calculations to estimate the noise level from emergency operation of the backup generators at the closest commercial buildings and residences. Applicant's diagrams indicate that the backup generators would be located along the eastern and western sides of the data center buildings.

With all the equipment necessary for project operation, rooftop mechanical equipment including HVAC, in addition to all backup generators, staff calculated that the noise levels at the nearby commercial building (800 feet to the south) and residences (1600 feet to the south) would be about 53 and 47 dBA,[3] respectively.

Staff's calculations did not account for the shielding effects of several rows of intervening structures that separate the nearest residential area from the project site, which would result in further reduction of at least 3 dBA. Considering the shielding effects of the intervening structures as well as SR 237, the projected noise level from project operation on the closest residential area would fall to less than 44 dBA. Compared to the daytime ambient level of 41 dBA in this area, the increase would be 3 dBA or less. This is not significant. A 44 dBA level is also within the city's nighttime noise level limit of 55 dBA L_{eq}. Noise levels at commercial buildings due to project's worst-case operation would be 53 dBA; same as the existing ambient noise level of 53 dBA. A 53 dBA level would be lower than the city's commercial noise level limit of 60 dBA L_{eq}.

Project operation would generate 130 total daily vehicle trips, including vendors and employee trips. With such a small number of vehicle trips spread over 24 hours, the noise impact of vehicle trips associated with the project would be less than significant.

Noise levels from project operation would be less than significant and would not conflict with adopted environmental standards or plans.

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3 Worst-case operational noise levels: 71.5 dBA at 100 feet
Noise levels at commercial buildings calculated as: 71.5 – 20*log (800/100) = 53.4 dBA
Noise levels at residences calculated as: 71.5 – 20*log (1600/100) = 47.4 dBA

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction

Less Than Significant Impact. 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 a peak particle velocity (PPV) of 0.16 inch per second (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.

Construction activities would include site preparation work, foundation work, and construction of the new buildings. In general, construction activities such as drilling, use of jackhammers, rock drills, and other high-power or vibratory tools, as well as rolling stock equipment such as tracked vehicles and compactors, may generate substantial vibration in the immediate site vicinity. Construction of the buildings is not anticipated to be a source of substantial vibration with the exception of sporadic events such as dropping of heavy objects. The adjacent Los Esteros Critical Energy Facility has a few structures, but all of those structures are more than 200 feet from the adjacent property lines. Therefore, use of heavy equipment on-site would not cause vibration levels above the 0.20 in/sec PPV criteria specified by General Plan Policy EC-2.3, and thus vibration impacts from project construction would be less than significant.

Operation

Less Than Significant Impact. Sources of groundborne vibration associated with project operation would include the backup generators, rooftop equipment. These pieces of equipment would be 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. The proposed backup generators are equipped with specifications that ensure sufficient exhaust silencing to reduce vibration. Therefore, vibration impacts due to project operation would be less than significant.

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 and Operation

Less Than Significant Impact. The nearest airport to the project site is the Norman Y. Mineta San Jose International Airport, located approximately 3.4 miles southwest of the project site. The project site is not within the Airport Noise Zone (the 65 CNEL[4] contour, as set forth by state law) as defined in the Comprehensive Land Use Plan for the airport. The project site is surrounded with mostly industrial and commercial uses and the closest residence is about 1,600 feet away from the project site. The project site is not in the vicinity of a private airport and would not place sensitive land uses within the airport noise contour. Thus, the project would not combine with the airport to expose people to excessive noise levels. Thus, the noise level impacts would be less than significant.

4.13.3 Mitigation Measures

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

- Prior to the start of project construction, identify a noise control disturbance coordinator. The disturbance coordinator will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g. starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented.
- Establish a telephone number for the disturbance coordinator and post it on the construction site.
- Prior to the start of construction, submit to the Director or Director's designee with the City of San Jose Planning, Building and Code Enforcement (PCBE), for review and approval, the schedule of "noisy" construction activities with the telephone number of the disturbance coordinator.
- Prior to the start of construction and after approval by the City of San Jose PCBE, notify the businesses located south of the project site immediately across Highway 237 and the businesses located within 1,000 feet of the project's southeastern boundary, of the construction schedule, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses. Include in the notice, the telephone number for the project's noise disturbance coordinator.

4.13.4 References

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4 CNEL is the average sound level over a 24-hour period, with a penalty of 5 dBA added between 7 pm and 10 pm and a penalty of 10 dbA added for the nighttime hours 10 pm to 7 am. CNEL is frequently used in regulations of airport noise impact on the surrounding community.

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4.14 Population and Housing

This section describes the environmental setting and regulatory background 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.

4.14.1 Environmental Setting

The project is proposed in the City of San Jose in Santa Clara County. Nearby cities include the cities of Fremont, Milpitas, Santa Clara, and Sunnyvale. The applicant estimates the construction and operations workers would come from the greater Bay Area. Staff considers that the local workers[1] from the greater Bay Area are not likely to temporarily (during construction) or permanently (during operations) move closer to the project. Staff considers the City of San Jose 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 Jose has an estimated land area of 180 square miles. The 2016 Envision San Jose 2040 General Plan Four Year Review projects that San Jose would add approximately 405,000 new residents by the year 2040 (San Jose 2016). The 2020 population for the city is 1,013,240 people (U.S. Census 2020).

Table 4.14-1 shows the historical and projected populations for the cities within proximity of the project site, plus Santa Clara County. Population projections between

1 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).

2020 and 2040 show a growth ranging from 14.7 to 48.2 percent or 0.7 to 2.4 percent per year in the cities within and around a 6-mile radius of the project site.

TABLE 4.14-1 HISTORICAL AND PROJECTED POPULATIONS

Area	2020[1]	2040[2]	Projected Population Change 2020-2040 Number	Projected Population Change 2020-2040 Percent (%)	Projected Population Change 2020-2040 Percent per Year (%)
Fremont	230,502	275,440	43,470	18.7	0.9
Milpitas	80,273	103,970	13,325	14.7	0.7
San Jose	1,013,240	1,377,145	348,935	33.9	1.7
Santa Clara	127,647	159,500	27,845	21.1	1.1
Sunnyvale	155,805	222,210	72,275	48.2	2.4
Santa Clara County	1,936,254	2,538,32	551,980	27.8	1.4

Sources: 1 U.S. Census 2020; 2 ABAG 2019.

Housing

Table 4.14-2 presents housing supply data for the project area. Year 2021 housing estimates indicated 31,633 vacant housing units within Santa Clara County, representing a vacancy rate of 4.6 percent (CA DOF 2021).

TABLE 4.14-2 HOUSING SUPPLY ESTIMATES IN THE PROJECT AREA

Housing Supply		2020 Total	2020 Vacant
Fremont	Number	78,218	2,791
	Percent	100	3.6
Milpitas	Number	22,723	806
	Percent	100	3.5
San Jose	Number	337,442	12,869
	Percent	100	3.8
Santa Clara	Number	51,041	2,758
	Percent	100	5.4
Sunnyvale	Number	60,761	2,996
	Percent	100	4.9
Santa Clara County	Number	680,298	31,633
	Percent	100	4.6

Source: CA DOF 2021.

San Jose's General Plan provides for the long-term ability to construct up to 120,000 new dwelling units and the development of up to 382,000 new jobs through 2040. Combined with San Jose's current development and this additional growth capacity, San Jose could grow to 751,000 jobs and 430,000 dwelling units, supporting a residential population of 1.3 million people with a Jobs/Employed Resident Ratio of 1.1/1 (San Jose 2016). The Santa Clara County regional housing needs assessment allocation projected a county need of 58,836 new housing units by 2022. Of the 58,836 new housing units, 35,080 new housing units would be needed in the City of San Jose (ABAG 2013, page 26).

Labor Supply

Table 4.14-3 presents the California Employment Development Department 2018-2028 Occupational Employment Projections for the project's construction occupations in the San Jose-Sunnyvale-Santa Clara MSA. The projections are estimates of the expected demand for individual occupations.

TABLE 4.14-3 PROJECTED EMPLOYMENT GROWTH

San Jose-Sunnyvale-Santa Clara MSA	Year 2018	Year 2028	Percent Change
Carpenters	7,160	7,800	8.9
Construction Laborers	7,550	8,070	6.9
Electricians	5,390	6,020	11.7
Structural Iron and Steel Workers	430	440	2.3
Plumbers, Pipefitters, and Steamfitters	2,360	2,680	13.6
Operating Engineers and Other Construction Equipment Operators	1,310	1,370	4.6
Cement Masons and Concrete Finishers	1,140	1,130	-0.9
Roofers	1,480	1,420	-4.1
Sheet Metal Workers	600	640	6.7
Painters, Construction and Maintenance	3,800	4,170	9.7
Supervisors of Construction and Extraction Workers	3,060	3,340	9.2

Note: Long-term (10 year) projections are based on annual average employment levels by industry for the base (2018) and target (2028) years. Source: CA EDD 2021.

Regulatory Background

No regulations related to population and housing apply to the project.

4.14.2 Environmental Impacts

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Construction

Less Than Significant Impact. The project would not directly or indirectly induce substantial unplanned growth in the City of San Jose. The project does not propose new housing and the project site is designated Light Industrial. The project would include offsite connections to potable and recycled water pipelines and to sanitary and storm water pipelines. Construction of water lines for the project would be consistent with the planned development of the Alviso Master Plan and would not result in unplanned population growth. While the project includes 244 natural gas generators, the electricity produced would directly serve the project if power interruptions occurred and would not be an extension of infrastructure that would result in indirect population growth.

Site preparation activities for the project would include soil excavation and removal work. Construction activities would last approximately 17 months (Jacobs 2019a, page 2-23). Project construction would require an onsite construction workforce averaging 108 workers per month and a peak workforce of 215 in month 13. The offsite construction workforce would average 48 workers per month and would peak with 72 workers in month 12 (Jacobs 2019g). The total construction workforce (onsite and offsite) would average 157 workers per month and would peak with 300 workers in month 13.

The applicant anticipates all the construction workforce for the project would be recruited from the greater Bay Area (Jacobs 2019a). 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. Furthermore, based on staff's experience, construction workers tend not to seek lodging closer to the project site when they live within two hours of 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

Less Than Significant Impact. The project would employ approximately 100 operations workers. The applicant anticipates all of the operations workforce would be recruited from the greater Bay Area (Jacobs 2019a). Based on the proximity of the supply of operations workers, they are not likely to relocate closer to the project. If some operations workers were to relocate, housing data shows a vacancy rate of 4.6 percent in Santa Clara County and 3.8 percent in the City of San Jose. 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 city and county 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 San Jose. If the few new operation workers were to relocate closer to the project site, it would not result in 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.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Construction

No Impact. The project site does not have any existing structures onsite. Previously, there were two vacant houses and a storage shed/warehouse onsite but a fire damaged and affected the safety of one of the structures. The structures were demolished in 2021. The project would not displace any people or housing. Construction of replacement housing elsewhere would not be necessary, no people or houses would be displaced, and thus no impact would occur.

Operation

Less Than Significant Impact. The project's 100 operation workers would be drawn from the greater Bay Area and are not expected to relocate closer to the project site. If some operations workers were to move closer to the project, there is a sufficient housing supply for these operations workers and their existing housing within the greater Bay Area would be vacated. Therefore, the project would not displace substantial numbers of people or housing, and no replacement housing would need to be constructed elsewhere. The impact would be less than significant.

4.14.3 Mitigation Measures

None.

4.14.4 References

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4.15 Public Services

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

PUBLIC SERVICES Would the project	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: i. Fire protection?	☐	☐	☒	☐
ii. Police Protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☒	☐
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

4.15.1 Environmental Setting

The proposed project would be in the City of San Jose in Santa Clara County. The project would include two single-story buildings with approximately 244,676 and 152,238 square feet of administrative and data center space, 244 standby natural gas generators, 2 administrative diesel-fired generators, surface parking, and landscaping. An onsite substation would interconnect to the adjacent PG&E substation. Fire and police protection services are provided to the project site from departments within the City of San Jose. Recreation facilities and other public facilities like libraries are also provided by the City of Santa Jose. Therefore, the study area for public services-related impacts is the City of San Jose, except for schools because the project site is within the Santa Clara Unified School District boundaries.

Fire Protection

The project would be located within the jurisdiction of the San Jose Fire Department (SJFD). The SJFD provides fire suppression, emergency medical services, and fire preventions services to the City of San Jose (San Jose 2020a, page 80). The SJFD has 33 fire station stations. Station 29 is located at 199 Innovation Drive, approximately 1.5 miles southwest of the project site. (SJFD 2020a)

The SJFD has approximately 676 fire service personnel (SJFD 2020b). In 2019-2020, SJFD responded to approximately 91,600 incidents. Of the incidents SJFD responded to, approximately 62 percent were for medical emergencies, 4 percent for fires, and 34 percent were for other incidents (rescues, good intent calls, and false alarms) (San Jose 2020a).

The SJFD's goal is to respond within eight minutes for 80 percent of Priority 1 incidents and within 13 minutes for 80 percent of Priority 2 incidents. In 2019-2020, SJFD responded to 75 percent of Priority 1 incidents within 8 minutes and 92 percent of Priority 2 incidents within 13 minutes. The SJFD disaggregates Priority 1 response time by three time targets: dispatch time, turnout time, and travel time. SJFD met its target for dispatch time and turnout time. The SJPD met its travel time standard for 45 percent of Priority I incidents. (San Jose 2020a) The SJFD has an inter-city agreement with the City of Milpitas to ensure that essential services are provided in a timely manner (Jacobs 2019a). San Jose is not in a very high fire hazard severity zone in a local responsibility area (Cal Fire 2008).

Police Protection

Police protection would be provided by the San Jose Police Department (SJPD). The SJPD is located at 201 West Mission Street, approximately 5.2 miles south the project site. The SJPD has 110 sworn authorized positions per 100,000 residents (San Jose 2020a). The SJPD is comprised of four bureaus and the Bureau of Field Operations (BFO) is the primary provider of police services for the residents of San Jose. The BFO has over 980 officers and responds to emergency and non-emergency calls for service. The BFO is divided into four divisions and the project site is in the Central Division (SJPD 2020).

In 2019-2020, the SJPD handled 1.2 million calls for service and responded to 212,000 Priority 1 to 4 incidents. Approximately 5 percent of the incidents SJPD responded to were Priority 1 and approximately 41 percent were Priority 2. The City of San Jose's *Envision 2040 General Plan* (general plan) identifies a goal to provide a response time of 6 minutes or less for 60 percent of all Priority 1 calls and 11 minutes or less for 60 percent of all Priority 2 calls (San Jose 2018, Chapter 4 page 38). The average response time for Priority 1 calls was 7 minutes and 58 percent of Priority 1 calls met the 6-minute target. The average response time for Priority 2 calls was 21 minutes and 46 percent of the Priority 2 calls met the 11-minute target (San Jose 2020a). The SJPD has an inter-city agreement with the City of Milpitas to ensure that essential services are provided in a timely matter (Jacobs 2019a).

Schools

The project would be located within the Santa Clara Unified School District. The district covers 56 square miles and is in the northwestern portion of Santa Clara County (SCUSD 2019a). This district serves the cities of San Jose, Sunnyvale, Santa Clara, and Cupertino. The Santa Clara Unified School District had an enrollment of 12,508 students in the 2020/2021 school year (CDE 2021). Santa Clara Unified School District facilities include:

1 adult school, 5 high schools, 3 middle schools, 1 K-8 school, 17 elementary schools, and 1 community school (SCUSD 2019b). In the Santa Clara Unified School District, the nearest school to the project site is Don Callejon K-8 School, approximately 2 miles southwest of the project. The project site is adjacent to the Milpitas Unified School District boundaries and the nearest school to the project site is Spangler Elementary School, located approximately 0.8 mile east of the project site. There are two private schools, Kindercare Learning Center and St. John the Baptist Catholic School, located approximately 1 mile east of the project site.

Parks

The City of San Jose has 199 neighborhood and 10 regional parks, 40 trail systems, and 48 community centers (San Jose 2020a). Included in the park and recreation areas are ball fields, basketball hoops, park playgrounds, swimming pools, skate parks, dog parks, courts (bocce ball, volleyball, and tennis), and a zoo (San Jose 2017).

The City of San Jose's goal is to provide 3.5 acres of neighborhood/community serving parkland per 1,000 population through a combination of 1.5 acres of public park and 2 acres of recreational school grounds open to the public. San Jose also has the goal to provide 7.5 acres of citywide/regional park and open space lands per 1,000 population and 500 square feet of community center space per 1,000 population (San Jose 2018).

Table 4.14-1 in **Section 4.14 Population and Housing** provides a population estimate of 1,028,210 for the City of San Jose. With a total 1,228 acres of neighborhood parks, San Jose has approximately 1.2 acres per 1,000 population and does not meet its park standard for neighborhood/community serving parkland. With a combined total of 1,987 acres of regional parks and open space and undeveloped land, San Jose has approximately 1.9 acres per 1,000 population and does not meet its citywide/regional park and open space standard. San Jose has 553,464 square feet of community center facilities and meets its community center facilities standard with 538 square feet per 1,000 population (San Jose 2020a).

San Jose's closest park to the project site is the Moitozo Park, which is located 1.6 mile to the south. The 6.27-acre park provides open space and an exercise course. The City of San Jose maintains this park (San Jose 2020b). The Starlite Park in the City of Milpitas is the closest park to the project site, located approximately 0.8 mile east of the project site. The four-acre park provides play equipment, horse-shoe units, and barbeque units and tables (Milpitas 2016).

Other Public Facilities

The San Jose City Library has 25 branches to serve the City of San Jose. The City's closest library to the project site is the Alviso Branch Library, which is located approximately 2 miles to the west (SJPL 2020). The Milpitas Library in the City of Milpitas is the closest library to the project site, which is located approximately 1.3 miles from the project site.

Regulatory Background

No regulations related to public services apply to the project.

4.15.2 Environmental Impacts

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i. Fire protection?

Construction

Less Than Significant Impact. The project site was historically used for farming but is not currently used for agriculture. The parcel is designated Light Industrial and no structures exist onsite. There were two vacant houses and a storage shed/warehouse onsite that were demolished in 2021 after a fire significantly damaged and affected the safety of one of the structures. The project site is already serviced by the City of San Jose Fire Department (Jacobs 2019a).

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, and vehicles. Other construction activities with a potential fire risk due to heat sources or open flames could include the use of torches or welding.

The standard for fire protection response time for Priority 1 incidents is eight minutes, 80 percent of the time. Current data show the SJFD meets it target response time for dispatch and turnout time. SJFD met its target travel time 45 percent of Priority 1 incidents. (San Jose 2020a). The SJFD has an inter-city agreement with the City of Milpitas that would help ensure the emergency response times are maintained during project construction.

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, impacts would be less than significant.

Operation

Less Than Significant Impact. The project would employ an estimated 100 operations workers. The applicant estimates that all the workers would be hired locally from the greater Bay Area (Jacobs 2019a). 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 San Jose and within SJFD's service area would have a negligible effect on the ability of the existing fire stations to meet their emergency service and response standards.

The project would develop a vacant site, thereby increasing the demand for fire services. However, the project would be consistent with the planned growth in the General Plan (see **Section 4.14 Population and Housing**) and would not result in the need to construct new fire facilities. The project would include diesel fuel tanks located underneath each of the administrative generators (Jacobs 2021n, page 2-20). Diesel fuel deliveries would occur as needed via tanker trucks. An emergency pump shut-off would be used if a pump hose breaks while fueling the tanks (Jacobs 2021n, page 2-21). Emergency access to the site would be provided from the existing driveways on Alviso Milpitas Road (Jacobs 2019a, page 3.17-20). The project would include updated fire suppression systems. The project facilities would undergo City of San Jose building design reviews to verify that the facility conforms to the applicable San Jose Municipal Fire and Environmental Codes (Jacobs 2019a, page 3.15-3). With all the above elements, the impacts to the fire protection service would be less than significant.

ii. 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. During construction, the project site would be enclosed by security fencing (Jacobs 2019a). The average response times for the police department would not be significantly affected by the project construction. In addition, the SJPD's inter-city agreement with the City of Milpitas would help ensure emergency response times are maintained. The project would not induce construction of new or physically altered governmental facilities, such as police stations that could result in significant environmental impacts. Therefore, impacts would be less than significant.

Operation

Less Than Significant Impact. The project's 100 operations workers would be drawn from the greater Bay Area and are not expected to relocate closer to the project site. The few operations employees that may move into San Jose and within SJPD's service area would have a negligible effect on the ability of the SJPD to meet its emergency service and response standards.

The project would develop a vacant site, thereby increasing the demand for police services. However, the project would be consistent with the planned growth in the General Plan. The entire project site would be secured by fencing and would include a security system with full-time video monitoring coverage and onsite security personnel.

The fencing and on-site security would deter criminal activity during operation. 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. Impacts would be less than significant.

iii. Schools?

Construction and Operation

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 $0.66 per square foot of covered, enclosed commercial/industrial space (SCUSD 2020). Based on the proposed size of the two buildings (combined total of 396,914 sq. ft.), an estimated $261,963 would be assessed. These fees would be collected at the time the applicant applies for building permits from the City of San Jose; therefore, impacts would be less than significant.

iv. Parks?

Construction

Less Than Significant Impact. Construction of the project would require an average 108 workers and a peak of 215 workers. The construction of the offsite linears would require an average and maximum of 48 and 72 workers, respectively. The construction workforce would be drawn from the greater Bay Area and would not require an influx of new workers. Also, construction workers who may temporarily relocate closer to the project do not typically visit area parks or park facilities while working in the project area and tend to return to their primary residence for the weekends.

As part of the project, extension of a Class I improved bike trail would be constructed along the east side of Zanker Road to the new Nortech Parkway extension to provide a trail connection to the Coyote Creek Trail. During construction of the bike trail, signs would be posted to notify trail users of the construction schedule and hours. If required, trail users would be redirected and to the extent feasible, reroutes would be posted (Jacobs 2021 pg. 3.16-2).

Construction of the project would not affect park standards or increase the demand for park facilities. The project construction impact on parks, trails, or park facilities would be less than significant.

Operation and Maintenance

Less Than Significant Impact. The approximately 100 operations workers 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, trails, or other recreational facilities. 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. Impacts would be less than significant.

v. Other Public Facilities?

Construction

No Impact. The 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 were to temporarily relocate, they are not likely to visit public facilities such as public libraries as they are working while in the project area and tend to return to their primary residence for the weekends. There would be no impacts to public facilities during project construction.

Operation

Less Than Significant Impact. The project's anticipated 100 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 impacts would be less than significant.

4.15.3 Mitigation Measures

None.

4.15.4 References

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4.16 Recreation

This section describes the environmental setting and regulatory background 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.

4.16.1 Environmental Setting

The project is proposed in the City of San Jose in Santa Clara County on property designated as Light Industrial. The City of Milpitas is located east of the project site. Given the proximity of the Milpitas border to the project site, staff considers the cities of San Jose and Milpitas as the project study area for recreation impacts.

Recreation Facilities

The City of San Jose has 199 neighborhood and 10 regional parks, 40 trail systems, and 48 community centers (San Jose 2020a). San Jose's closest park to the project site is Moitozo Park, which is located 1.6 mile to the south. The City of San Jose maintains this park.

The City of Milpitas has 33 parks, several miles of trails, five community service buildings, and a sports complex (Milpitas 2020). Starlite Park in the City of Milpitas is the closest park to the project site, located approximately 0.8 mile east of the project site.

As shown in **Figure 4.16-1**, the project site is surrounded by several existing pedestrian and bike trails. The Coyote Creek Trail is located east of the project site and extends north-south parallel to Coyote Creek. The Highway 237 Bikeway is located south of the project site adjacent to Highway 237 and links Milpitas and Sunnyvale. Along the north side of Highway 237 there is a bike path between Zanker Road and Ranch Drive. Ranch Drive provides a connection between Zanker Road and McCarthy Boulevard and is a designated bike route with bike lanes on a portion of the roadway. The Coyote Creek

Trail and Highway 237 Bikeway were designated as a national recreational trail in 2009 (American Trails 2018).

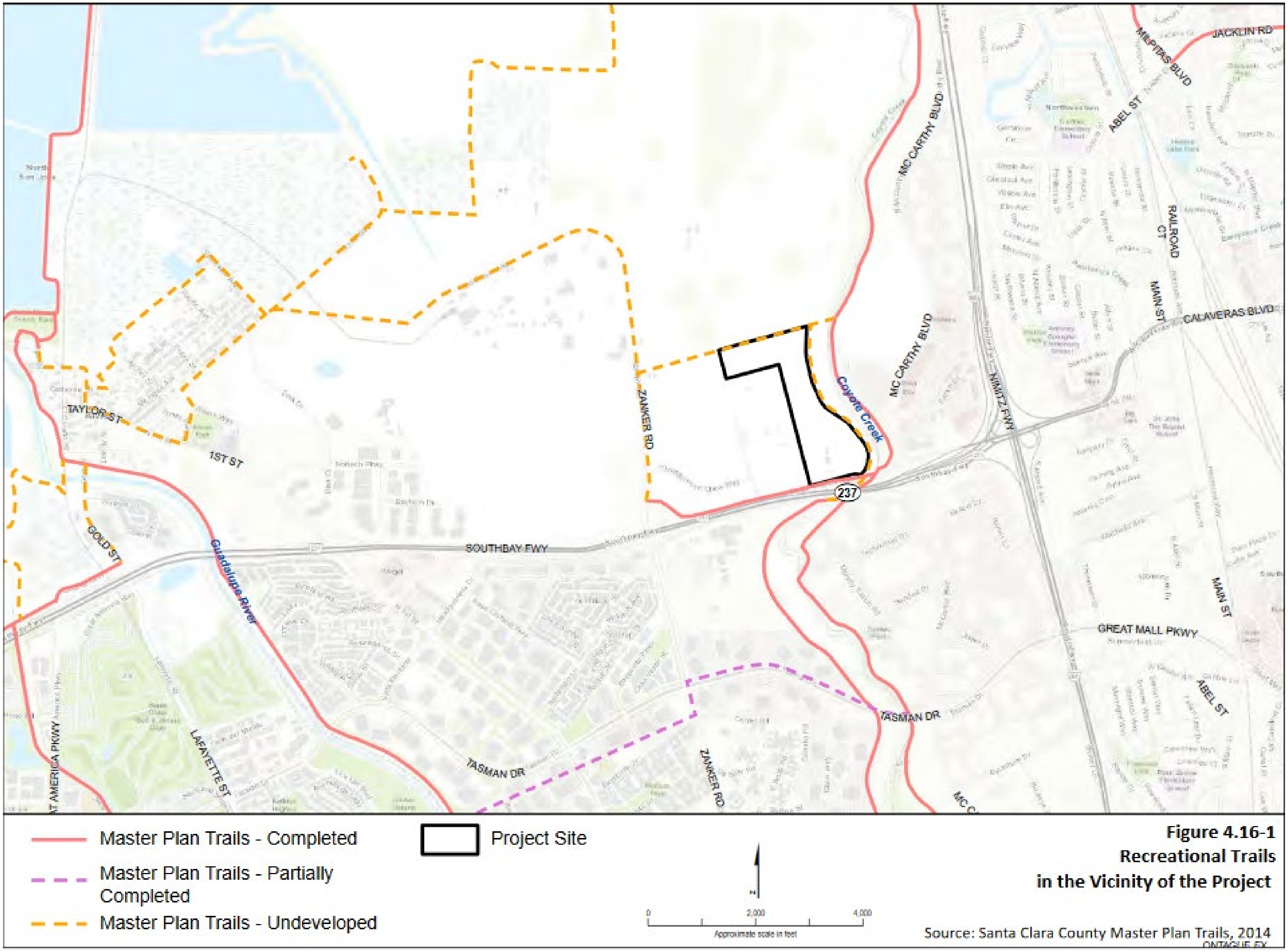

Figure 4.16-1
Recreational Trails in the Vicinity of the Project

Source: Santa Clara County Master Plan Trails, 2014

The stretch of Highway 237 Bikeway from Zanker Road to Coyote Creek is recognized as part of the San Francisco Bay Trail and the Juan Bautista de Anza National Historic Trail (San Jose 2020b). There are several undeveloped trails near the project site, including portions of the San Francisco Bay Trail and Juan Bautista de Anza National Trail (see **Figure 4.16-1**).

Regulatory Background

No regulations related to recreation apply to the project.

4.16.2 Environmental Impacts

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Construction

No Impact. Construction of the project would require an average 108 workers and a peak of 215 workers. The construction of the offsite linears would require an average and maximum of 48 and 72 workers, respectively. Construction is expected to last for approximately 17 months (Jacobs 2019a). The applicant estimates that all of the construction workforce would be recruited from the greater Bay Area, thus the workforce would likely be drawn from the San Jose-Sunnyvale-Santa Clara region.[1] 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

Less Than Significant Impact. The project would employ 100 operations workers drawn from the greater Bay Area (see **Section 4.14 Population and Housing**). Based on the proximity of the supply of operations workers, they are not likely to relocate closer to the project. If however, some operation 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. Impacts to surrounding parks and recreational facilities would be less than significant.

1 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 and Operation

Less Than Significant Impact. The project includes the extension of a Class I improved bike trail along the east side of Zanker Road from the intersection of the existing bike trail at Zanker Road to the new Nortech Parkway extension to provide a trail connection to the Coyote Creek Trail (see **Figure 4-4)**. During construction of the bike trail extension, signs would be posted to notify trail users of the construction schedule and hours. If required, trail users would be redirected, and to the extent feasible, reroutes would be posted (Jacobs 2021 pg. 3.16-2).

See **Section 4.17 Transportation** for considerations of potential impacts of the construction of the bike trail extension as it relates to transportation. The applicant would obtain the proper permits for construction of the bike trail extension. See **Section 4.4 Biological Resources** for consideration of potential impacts due to tree disturbance or removal associated with the construction of the bike trail extension. Mitigation measure **BIO-12** would require pre-construction tree surveys by a qualified arborist or biologist. If any ordinance-sized trees need to be removed, the applicant would be required to obtain a tree removal permit, which would reduce impacts to ordinance-sized trees to less than significant. The bike trail extension would be designed and constructed to meet Caltrans standards for operation as a Class I trail, which includes operation as a paved bike path (Caltrans 2015). Therefore, construction and operation of the bike trail extension would not have an adverse physical impact on the environment and the impact would be less than significant.

4.16.3 Mitigation Measures

None.

4.16.4 References

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4.17 Transportation

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

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

4.17.1 Environmental Setting

The project is located in the City of San Jose on an approximately 64.5-acre site at 1657 Alviso-Milpitas Road. Numerous urban roadways and freeways, including U.S. Highway 101 (US-101), Interstate 680 (I-680), Interstate 880 (I-880) and State Route 237 (SR 237), would provide regional access to the project site. Other major roadways near the project include Tasman Drive, Montague Expressway, and North 1st Street. Local access is provided by Zanker Road and North McCarthy Boulevard. Direct access is established via Alviso-Milpitas Road, along the southern boundary of the site by an existing driveway. This roadway becomes Ranch Drive at Coyote Creek.

A new road, Nortech Parkway, would be constructed as part of the project, extending east from Zanker Road to connect with Thomas Foon Chew Way. At the Los Esteros Critical Energy Facility property, where Thomas Foon Chew Way terminates, a north-south roadway would be constructed to provide direct access to the northern portion of the project site. See **Figure 3-4** for details. The roadway would end at a cul-de-sac with a secure gated entry to the project site (San Jose 2017). A fire loop drive aisle would be located around the perimeter of the data center buildings on all sides and would connect all entrances.

Nearby transportation infrastructure includes bike paths, bus transit, passenger rail, and the Norman Y. Mineta San Jose International Airport. The Coyote Creek Trail, located east of the project site, features a north-south Class I (off street) path that runs parallel to Coyote Creek. Two segments of the Highway 237 Bikeway Trail are located south of the site on both sides of SR 237. The northern segment extends from Zanker Road to Ranch Drive south and adjacent to the project site (VTA 2020a). The southern segment extends from Zanker Road to McCarthy Boulevard. Access to both the Coyote Creek Trail and the Highway 237 Bikeway Trail is provided along Alviso-Milpitas Road slightly east of the southern site entrance. Lastly, Zanker Road, north of SR 237, is designated as a Class III (on street) bike route. This portion of Zanker Road does not provide striped bike lanes. A Class I bike path is planned for Zanker Road, between SR 237 and Los Esteros Road (San Jose 2009).

The closest bus stop is located at the McCarthy Boulevard and Ranch Road intersection, approximately 800 feet east of the site, along the Santa Clara Valley Transportation Authority's (VTA) Bus Route 47. There are no sidewalks adjacent to the project site. Express Bus Route 104 runs along SR 237 and provides direct commute hourly service to major employment centers. The nearest VTA light rail station, the Baypointe Station, is located approximately 1 mile southwest of the project along Tasman Drive. The nearest Amtrack stop is located 2.3 miles southwest of the project site at the Great America Station (VTA 2020b). The San Jose International Airport is located approximately 3.4 miles southwest of the project site and has two runways that exceed 3,200 feet in length (AirNav 2020).

Regulatory Background

Federal

Code of Federal Regulations (Title 14, Part 77.9 [a]). This regulation requires Federal Aviation Administration (FAA) 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 (CFR 2020a). The threshold for the FAA notification 100 to 1 surface exceedance height is approximately 180 feet at the project site. If a project's height, including any 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

California Department of Transportation. 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 FAR Part 77 surface shown on Figure 6 of the CLUP is at 462 feet above mean sea level (AMSL) (Santa Clara County 2016).

Envision San Jose 2040 General Plan. The Envision San Jose 2040 General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to transportation and are applicable to the proposed project.

- Policy TR-1.1: Accommodate and encourage use of non-automobile transportation modes to achieve San Jose's mobility goals and reduce vehicle trip generation and vehicle miles traveled (VMT).
- Policy TR-1.2: Consider impacts on overall mobility and all travel modes when evaluating transportation impacts of new developments or infrastructure projects.
- Policy TR-1.3: Increase substantially the proportion of commute travel using modes other than the single occupant vehicle to meet the City's mode split targets for San Jose residents and workers.
- Policy TR-1.4: Through the entitlement process for new development, fund needed transportation improvements for all transportation modes, giving first consideration to improvement of bicycling, walking and transit facilities. Encourage investments that reduce vehicle travel demand.
- Policy TR-1.6: Require that public street improvements provide safe access for motorists and pedestrians along development frontages per current City design standards.
- Policy TR-1.8: Actively coordinate with regional transportation, land use planning, and transit agencies to develop a transportation network with complementary land uses that encourage travel by bicycling, walking and transit, and ensure that regional greenhouse gas emissions standards are met.
- Policy TR-2.1: Coordinate the planning and implementation of citywide bicycle and pedestrian facilities and supporting infrastructure. Give priority to bicycle and pedestrian safety and access improvements at street crossings and near areas with higher pedestrian concentrations (school, transit, shopping, hospital, and mixed-use areas).
- Policy TR-2.2: Provide a continuous pedestrian and bicycle system to enhance connectivity throughout the City by completing missing segments. Eliminate or

minimize physical obstacles and barriers that impede pedestrian and bicycle movement on City streets. Include consideration of gradeseparated crossings at railroad tracks and freeways. Provide safe bicycle and pedestrian connections to all facilities regularly accessed by the public, including the Mineta San Jose International Airport.

- Policy TR-2.5: Integrate the financing, design and construction of pedestrian and bicycle facilities with street projects. Build pedestrian and bicycle improvements at the same time as improvements for vehicular circulation
- Policy TR-2.8 Require new development where feasible to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements.
- Policy TR-3.3: As part of the development review process, require that new development along existing and planned transit facilities consist of land use and development types and intensities that contribute towards transit ridership. In addition, require that new development is designed to accommodate and to provide direct access to transit facilities.
- Policy TR-4.1: Support the development of amenities and land use and development types and intensities that increase daily ridership on the VTA, BART, Caltrain, ACE and Amtrak California systems and provide positive fiscal, economic, and environmental benefits to the community.
- Policy TR-8.4: Discourage, as part of the entitlement process, the provision of parking spaces significantly above the number of spaces required by code for a given use.
- Policy TR-9.1: Enhance, expand, and maintain facilities for walking and bicycling, particularly to connect with and ensure access to transit and to provide a safe and complete alternative transportation network that facilitates non-automobile trips.

North San Jose Area Development Policy. The North San Jose Area Development Policy (NSJADP) establishes a policy framework to guide the ongoing development of the North San Jose area as an important employment center for San Jose. The NSJADP provides for full development of the previously adopted base Floor Area Ratio (FAR) caps but also provides additional industrial development capacity for 20 million square feet of transferable floor area credits that can be allocated to specific properties within the policy area. The NSJADP supports the conversion of specific sites from industrial to high-density residential, using specific criteria compatible with industrial activity. The NSJADP also identifies necessary transportation improvements to support new development and establishes a Traffic Impact Fee (TIF), an equitable funding mechanism, for new development to share the cost of those improvements.

Although the project site is not located within the NSJADP boundaries, the project would contribute toward traffic growth within the NSJADP area since it would add vehicle trips to intersections located within the policy area boundaries. Therefore, the project would be required to pay the applicable NSJADP TIF based on the number of PM Peak Trips the project would send into the NSJADP boundaries.

City of San Jose, Transportation Analysis Policy 5-1. The City of San Jose adopted Transportation Analysis Policy 5-1 to align with SB 743. This policy replaces Transportation Impact Policy 5-3 and establishes thresholds for transportation impacts under CEQA based on VMT instead of level of service (LOS). The intent of this change is to shift the focus of transportation analysis under CEQA from vehicle delay and roadway auto capacity to a reduction in vehicle emissions.

According to the policy, an employment (e.g., office or research and development) project’s transportation impact would be less than significant if the project VMT is 15 percent or more below the existing regional VMT per employee. For industrial projects (e.g., warehouse, manufacturing, distribution), the impact would be less than significant if the project VMT is equal to or less than existing average regional per capita VMT. Screening criteria have been established by the city to determine which projects require a detailed VMT analysis. If a project meets the relevant screening criteria, it is considered to a have a less than significant VMT impact. If a project’s VMT does not meet the screening criteria and established thresholds, VMT reduction measures would be required, where feasible. VMT reduction measures consist of: (1) project characteristics, (2) multimodal network improvements, (3) parking, and (4) transportation demand management (TDM) measures. TDM measures are programmatic measures that aim to reduce VMT by decreasing personal motorized vehicle use and by encouraging more walking, biking, and riding transit. TDM measures are enforced through annual trip monitoring to assess the project’s status in meeting the VMT reduction goals.

In addition to a VMT analysis, Policy 5-1 also requires certain projects prepare a Local Transportation Analysis (LTA) to address the effects of a project on transportation, access, circulation, and related safety elements as it relates to the operation of the project. LTAs provide additional information to evaluate transportation conditions proximate to a project and supplements the VMT analysis.

City of San Jose, Transportation Analysis Handbook 2020. The Transportation Analysis Handbook provides transportation analysis (TA) significance criteria, screening criteria, and thresholds of significance for environmental clearance of development projects, city transportation projects, and General Plan amendments. In addition, it provides a framework for a TA based on the city’s transportation policies and the Envision San Jose 2040 General Plan. It also provides appropriate methodologies, procedures, and process for the preparation of a TA report within the context of CEQA. Lastly, it provides the appropriate methodologies, procedures, and process for determining the effects of projects on the local transportation system.

A TA that includes an analysis of VMT and local transportation impacts related to LOS was conducted for the project. Existing peak hour traffic volumes for four intersections in the project’s immediate vicinity (Zanker Road and Nortech Parkway, Zanker Road and

Tasman Drive, Zanker Road and SR 237 South, and Zanker Road and SR 237 North) were obtained from the City of San Jose. The results of the LOS analysis, contained in Appendix C of the TA, show that the four signalized study intersections are currently operating at acceptable levels of service (LOS "D" or better) during AM and PM peak hours of traffic and would continue to operate acceptably under background and background plus project conditions (Jacobs 2021x). Discussion of LOS impacts are included for informational purposes as the required CEQA analysis centers on VMT.

Alviso Master Plan, A Specific Plan for the Alviso Community. The Alviso planning area includes all properties within the City of San Jose located north of SR 237, between Coyote Creek and the Guadalupe River. The plan's Circulation chapter describes the transportation network needed to support the existing land uses. It also contains objectives and policies related to the project listed below:

- Vehicular Circulation Policy 3: New streets serving future industrial and commercial land uses should minimize potential negative impacts to residential and sensitive environmental areas. Truck traffic should be limited to Gold Street, North First Street, Los Esteros Road, and Zanker Road and the industrial area streets.
- Vehicular Circulation Policy 5: All streets in Alviso need to be built and maintained to appropriate City standards. Many existing streets in Alviso do not have curbs, gutters, sidewalks, or street trees. The City typically requires public street improvements as a condition of approval of development on adjoining property. This condition should be implemented consistently on new development in Alviso.
- Bicycle Policy 3: New commercial and industrial development should accommodate safe bicycle travel by their employees and customers. New commercial and industrial development should incorporate bicycle and pedestrian paths to connect to the Bicycle Network Streets.

4.17.2 Environmental Impacts

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. Construction activities would occur mostly onsite and not in the public right-of-way, with the exceptions of: a Class I Bikeway Trail extension connecting the existing trail Coyote Creek segment to the new Nortech Parkway extension; interconnection to water and transmission lines west of the project site; two independent natural gas pipelines (approximately 75 feet in length) at the southern border of the project; and several roadway improvements along Zanker Road.

In addition, Nortech Parkway extension would be constructed as part of the project. The new road would be located approximately 400 feet north of the Thomas Foon Chew Way. This road would traverse City of San Jose lands from Zanker Road, east to the Los Esteros Critical Energy Facility. The second leg of Nortech Parkway Extension would extend north, from where Thomas Foon Chew Way terminates, to the northern portion of the project site and would end at a cul-de-sac with a secured gated entry to the project site (San Jose 2017). The new road would provide direct access to the project site as well as adjacent undeveloped parcels. The road would also feature a sidewalk along the project driveway from Nortech Parkway extension to the data center site. Improvements to Zanker Road include the construction of a new signalized intersection at the Zanker Road and Nortech Parkway extension; a raised median island extending from the SR 237 westbound off-ramp, to the north, slightly past the new signalized intersection; and a Class I Bikeway Trail extension along the east side of Zanker Road connecting the existing Coyote Creek Trail segment with the Nortech Parkway extension. During the first month of construction, base material would be placed along the new road alignment (Nortech Parkway extension including the north-south segment) to accommodate construction traffic. Construction of the new roads would occur in stages to allow worker and delivery vehicles access to the site while pavement, curbs, sidewalk and streetscape are constructed. Roadway construction activities are expected to occur concurrently with onsite construction activities (Jacobs 2020a).

The City of San Jose, as the permitting agency, would ensure the project applicant obtains the proper permits for these activities to minimize disruption to the circulation system. Furthermore, the City of San Jose would require the project owner to submit a construction management plan for city review and approval that includes a remediation procedure, construction schedule, construction staging and parking areas, as well as planned street closures, detours, and planned truck routes. Lastly, the City of San Jose, as the permitting agency, would require the project owner to obtain all the required permits from Caltrans for any encroachment of state roadway and 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.

Project construction would not conflict with any program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and would therefore have less than significant impacts.

Operation

Less Than Significant Impact. Operation of the project would occur fully onsite and would not obstruct pedestrian, bike, or transit facilities. Additionally, the project would not interfere with any future pedestrian, bike, or transit plans for the area.

The project would be consistent with the General Plan and the Alviso Master Plan circulation policies (discussed under "Regulatory Background" in this section) which are intended to improve multimodal accessibility between land uses and to facilitate the use of non-vehicular travel. The project would involve the construction of a new Class I Bikeway Trail extension (a new trail segment that would connect the existing Coyote Creek Trail segment to Nortech Parkway extension), the construction of a new road with a sidewalk (Nortech Parkway extension), as well as several road improvements along Zanker Road which would provide a designated Class I bicycle lane and traffic calming measures (e.g., raised median, signalized intersection). Thus, the project would contribute to the fulfillment of the pedestrian plans.

The project would also be consistent with the NSJADP, which aims to develop pedestrian infrastructure, encourage use of the transit system, and provide local and regional transportation improvements to support employment growth in the planning area. The NSJADP identifies specific transportation improvements necessary to support new development and establishes an equitable funding mechanism for new development to share the cost of those improvements through a transportation impact fee (TIF). The TIF is used to fund various improvements needed to address current and future traffic conditions resulting from implementation of the NSJADP. The 2021 TIF is $18,725 per PM Peak hour trip. The City of San Jose, as the permitting agency, would ensure the project owner contributes its fair share to the NSJADP TIF. Therefore, operation of the project would not conflict with the NSJADP.

Operation of the project would not conflict with any program, plan, ordinance, or policy addressing the circulation system, and would therefore result in less than significant impacts.

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 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 (CNRA 2018; see also CEQA Guidelines section 15064.3, subdivision (b)(3)). The CEQA Guidelines also state that projects within 0.5 mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be regarded as having less than significant VMT impacts (CNRA, 2018).

The City of San Jose's Transportation Policy 5-1 establishes thresholds of significance for development projects. Thresholds of significance are applied based on the development type (e.g., employment, industrial, office, residential, mixed-use). Currently there is not a designated threshold or measurement criteria used to calculate VMT construction impacts. The city's Transportation Analysis Handbook advises that to the extent possible, the CEQA document prepared for a project should include information about project construction such as duration, hours of operations, required grading, potential haul routes, traffic control plans, closure or relocation of bus stops, street closures, and construction entrances. In addition, construction workers are expected to commute locally from the greater Bay Area. The San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area (MSA) that serves Santa Clara and San Bentio counties has a sufficient local construction workforce to accommodate the project, as described in **Section 4.14 Population and Housing**. Thus, the construction workforce for the project would commute locally rather than requesting construction workers from MSAs that are further away (e.g., Sacramento-Roseville-Folsom MSA). The paragraphs below describe the construction activities that are expected to occur during the project's construction timeline.

Project construction would involve a temporary increase in vehicle trips resulting from workers commuting to the project site, and the delivery and hauling of project materials. Preparation of the site would require the transport of 182,000 cubic yards of imported fill to address liquefaction/lateral spreading and expansive soils. The maximum number of daily trips for the delivery of fill is expected to be 240, based on 25 trucks with a 20 cubic yard capacity operating eight hours a day for approximately 14 days (Jacobs 2020a). Soil excavation and remediation work would occur primarily during the first month or two of construction when the number of onsite and offsite workers is at a minimum. Once excavation and remediation work are complete, construction of the project is expected to take approximately 16 months for a total construction period of 17 months. Construction of offsite linear features (water, natural gas and transmission lines), Class I Bikeway Trail extension, and roadway improvements are expected to be completed within the 17-month construction window. No off-site staging or laydown areas are proposed, as construction staging would occur on the project site or within the 75-foot construction corridor for linear features. Typical activities related to the construction of any development could include lane narrowing and/or lane closures, sidewalk and pedestrian crosswalk closures, and bike lane closures. In the event of any type of closure, clear signage (closure and detour signs) would be provided to ensure vehicles, pedestrians and bicyclists are able to adequately reach their intended destinations safely.

The maximum and average combined total for onsite and offsite construction work force is estimated to be 287 (215 onsite and 72 offsite) and 156 (108 onsite and 48 offsite). In addition, 150 round trip delivery/haul truck trips are conservatively expected to occur during the AM and PM peak hours. Please note many of the construction worker trips would be expected to occur prior to the AM and PM peak hours, in accordance with typical construction schedules. To the extent feasible, it is anticipated that truck trips would occur throughout the day and would be scheduled for off peak-hours (Jacobs 2019a). See **Table 4.17-1** for construction trip generation.

TABLE 4.17-1 CONSTRUCION TRIP GENERATION

Trip Type	AM Peak Hour			PM Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Delivery/Haul Trucks	150	150	300	150	150	300
Offsite Workers (Maximum/Average)	72/48		72/48		72/48	72/48
Onsite Workers (Maximum/Average)	215/108		215/108		215/108	215/108
Total Construction Traffic	--	--	587/456	--	--	587/456

Notes: -- Not applicable
Source: Jacobs 2020a

As discussed under impact criterion "a", above, the project includes the construction of a new road, Nortech Parkway, that would extend east from Zanker Road to provide access to the project site, and several roadway improvements along Zanker Road (signalized intersection with striped cross walks, pedestrian signals and push buttons, Class I Bikeway Trail extension, and raised median). The new signalized intersection would be located at Zanker Road and Nortech Parkway, located approximately 400 feet north of the Zanker Road and Thomas Foon Chew Way intersection. Currently, Nortech Parkway is an east-west local public roadway that terminates approximately 0.8 mile west of Zanker Road near Fortran Drive. The city plans to extend Nortech Parkway east to Zanker Road, where the new traffic signal would be constructed by the project.[1] The multi-modal infrastructure improvements would promote the use of alternative transportation modes such as walking and biking.

The site plan shows a driveway on Alviso Milpitas Road at the south end of the site. This secondary entrance would be constructed in advance of the Nortech Parkway extension and main project driveway. Thus, all construction vehicles would use Alviso Milpitas Road to access the site during construction of the project including the Nortech Parkway extension. It is expected that all construction vehicles would access Alviso Milpitas Road via the McCarthy Boulevard/Ranch Drive intersection east of the site, since this is the only paved connection to Alviso Milpitas Road that currently exists. Accordingly, construction vehicles would be routed through the SR 237/McCarthy Boulevard interchange and away from residential neighborhoods and dense employment areas (Jacobs 2021x). The project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) because construction-generated traffic would be temporary and all workers would commute from the greater Bay Area, minimizing VMT impacts. Furthermore, the project is located within 0.5 mile of the Santa Clara Valley Transportation Authority's Bus Route 47, which provides bus service during commute hours and has connections with the

1 The project would not be responsible for constructing or contributing toward the construction of the segment of the Nortech Parkway extension west of Zanker Road. (Jacobs 2021x)

Milpitas Transit Center. Therefore, VMT impacts from project construction would be less than significant.

Operation

Less Than Significant with Mitigation Incorporated. Operation trips would be generated by: the 100 daily employees, over three shifts, who would travel to and from the project site; and delivery and trash-hauling trucks. It should be noted that the majority of trips would be made by the 100 employees, and as a result, the vehicle trips generated by the project would be much lower than the number calculated by the Institute of Transportation Engineers (ITE) trip generation rate for data centers (ITE #160), which estimates an average of 393 daily trips[2].

In accordance with San Jose's Transportation Analysis Handbook (April 2020, Section 4.8, "Intersection Operations Analysis"), the project is eligible for adjustments and reductions from the baseline trip generation. The location-based adjustment reflects the project's vehicle mode share based on the "place type" in which the project is located per the San Jose Travel Demand Model. The project's place type was obtained from the San Jose VMT Evaluation Tool. Based on the Evaluation Tool, the project site is located within a Suburban with Single-Family Homes place type. Therefore, the baseline project trips were adjusted to reflect the mode share associated with this place type.

Industrial developments located within areas designated Suburban with Single-Family Homes have a vehicle mode share of 95 percent (according to Table 6 of the City's Transportation Analysis Handbook). Thus, a 5 percent reduction was applied to the project trip generation estimates based on the location-based vehicle mode share outputs produced from the San Jose Travel Demand Model.

The project-level impact analysis under CEQA uses the VMT metric to evaluate a project's transportation impacts by comparing against the VMT thresholds of significance established in the city's Transportation Analysis Policy 5-1. The thresholds of significance for development projects are based on the existing regional average VMT level for industrial and office employment uses.

The city's threshold of significance for industrial employment uses is 14.37 VMT per employee (San Jose 2020). Using the City of San Jose's Online VMT Evaluation Tool, the project is estimated to generate a total of 17.28 VMT per employee. Thus, VMT generated by the project without the incorporation of mitigation measures, would exceed the industrial threshold of 14.37 VMT per employee. In consultation with the City of San Jose, the applicant has proposed a measure to reduce the VMT impact. Implementation of the measure would provide both public improvements to the project's surrounding transportation infrastructure and encourage employees to use alternative modes of

2 The VMT Evaluation Tool does not provide for the evaluation of VMT for a Data Center use. Therefore, the proposed project trips were converted to equivalent General Light Industrial space and evaluated as an Industrial land use in the San Jose VMT Evaluation tool.

transportation to commute to work. Infrastructure improvements along Zanker Road (numbers 1-4) are multimodal improvements used to promote walking and biking. The project's reduced parking supply and end of trip bike facilities (numbers 5 and 6) are parking and onsite improvements used to encourage employees to choose an alternative transportation mode for their commute. The commute trip reduction marketing and education campaign (number 7) incentivizes the project's employees to carpool or use alternative modes of transportation (Jacobs 2021x). Staff has evaluated the measure in the context of impacts to VMT and concludes that the requirements defined in the measure are sufficient. The measure includes the following:

1. Increase Roadway Network Connectivity – The project owner would construct a new street, Nortech Parkway, that would extend east from Zanker Road providing access to the project site.

Building new street connections/intersections improves vehicular, pedestrian and bicycle access, shortens vehicle trips, enhances walkability, and provides more opportunities for bicyclists, thus reducing project generated VMT.

2. Traffic Calming Measures – The project owner would construct a raised median island along Zanker Road between the new Nortech Parkway extension and the SR 237 westbound off-ramp.

Providing raised median islands reduces vehicular speeds by narrowing the roadway, as well as provides a physical barrier for vehicles and a refuge for pedestrians. This multi-modal infrastructure improvement would reduce drive-alone commute trips and thus VMT.

3. Pedestrian Network Improvements – The project owner would construct a new signalized intersection at Zanker Road and Nortech Parkway extension. Pedestrian improvements would include striped crosswalks, pedestrian signals and push buttons. Sidewalks would be included along both sides of Nortech Parkway.

These infrastructure improvements would promote walking, thereby reducing drive-alone commute trips and VMT.

4. Bike Access Improvements – The project owner would construct a Class I Bikeway Trail extension along the east side of Zanker Road (within the City's right-of-way). Bike lanes would be included along both sides of the Nortech Parkway extension. Bicycle racks would be provided near administrative buildings and wayfinding signage and bike route markings on the site's internal roadway network.

Providing new bicycle facilities that close gaps in the existing bike network improves overall bike access and circulation, and promotes bicycling as an alternative to driving, thereby reducing VMT.

5. Limit Parking Supply – The project owner would provide a reduced number of vehicle parking spaces.

Decreasing a project's parking supply encourages employees to choose an alternative transportation mode for their commutes, thereby reducing VMT.

6. End of Trip Bike Facilities – The project owner would provide and maintain bike facilities for active alternative transportation users of the project.

Providing on-site bicycle facilities encourages employees to bike to work as an alternative to driving, thereby reducing VMT.

7. Commute Trip Reduction Marketing and Education – The project owner would implement a marketing campaign targeting 100 percent of employees as part of a TDM plan.

Providing employees with information and encouragement to use transit, shared ride modes, and active modes of transportation reduce drive-alone commute trips and, thus VMT.

Adherence to all aspects of this measure, as described above, would result in an 18 percent trip reduction, thus lowering the project VMT. See **Table 4.17-2** below for details.

Staff proposes **TRA-1**, which would reduce the project VMT to 14.12 per employee, causing the project VMT to fall below the city's industrial threshold. With implementation of **TRA-1**, the project's impacts to VMT would be reduced to a less than significant level.

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 onsite and not in the public right-of-way, with the exceptions of: a Class I Bikeway Trail extension connecting the existing Coyote Creek trail segment to the Nortech Parkway extension along the east side of Zanker Road; interconnection to water and transmission services west of the project site; two independent natural gas pipelines (approximately 75 feet in length) at the southern border of the project; and several roadway improvements along Zanker Road.

Additionally, two new roads would be constructed as part of the project. Nortech Parkway would be located 400 feet north of Thomas Foon Chew Way. The second new road would extend north, from where Thomas Foon Chew Way terminates, to the northern portion of the project site. This road would end at a cul-de-sac with a secured gated entry to the project site (San Jose 2017). The two roadways would provide direct access to the project site as well as adjacent undeveloped parcels.

TABLE 4.17-2 PROJECT TRIP GENERATION ESTIMATES

ITE Land Use	% of Vehicle Mode Share			Daily			AM Peak Hour Trips			Pk-Hr Rate	PM Peak Hour Trips		
		Reduction %	Size (s.f.)	Rate	Trips	Pk-Hr Rate	In	Out	Total		In	Out	Total
Data Center[1]			396,914	0.99	393	0.11	24	20	44	0.09	11	25	36
Location-Based Vehicle Mode Share Reduction[2]	95%	5%			(20)		(1)	(1)	(2)		(1)	(1)	(2)
Project-Specific Trip Reduction[3]		18%			(67)		(4)	(4)	(8)		(2)	(4)	(6)
Net Project Trips					**306**		**19**	**15**	**34**		**8**	**20**	**28**

1 The project trip generation estimates are based on average rates contained in the ITE Trip Generation Manual, 10th Edition, for Data Center (Land Use 160) located in a General Urban/Suburban setting. Rates are expressed in trips per 1,000 SF.
2 The project site is located within the place type Suburban with Single-Family Homes based on the City of San Jose VMT Evaluation Tool (February 29, 2019). The location-based vehicle mode share percentage outputs are obtained from Table 6 of the City of San Jose Transportation Analysis Handbook (April 2018). The 5% trip reduction is based on the percent of mode share for other modes of travel besides vehicles.
3 An 18% trip reduction was applied based on the external trip adjustments obtained from the City's VMT Evaluation Tool. This trip reduction reflects the multi-modal infrastructure improvements, parking reduction measures, and commute trip reduction education program being proposed by the project to reduce the project VMT impact to a less-than-significant level. It is assumed that every percent reduction in VMT per worker is equivalent to one percent reduction in peak-hour vehicle trips.
Source: Jacobs 2021x

The City of San Jose, as the permitting agency, would ensure the applicant obtains the proper permits, including encroachment permits, to minimize any hazards resulting from construction equipment or activities. The City of San Jose would also require the project applicant to prepare a Traffic Control Plan to ensure localized traffic control around the project site during deliveries and construction activities would not cause hazards by obstructing roadways. Furthermore, the City of San Jose, as the permitting agency, would require the project owner obtain all the required permits from Caltrans for any encroachment of state roadway and 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 the start of construction. These actions would reduce any hazards from transportation of materials to and from the site and from construction activities affecting roadways.

As discussed under "Regulatory Background" in this section under Title 14, Part 77.9 of the Code of Federal Regulations, the threshold for the FAA notification 100 to 1 surface exceedance height is approximately 180 feet at the project site. Project construction would require a crane for the placement of the generators. If the crane should exceed 180 feet in height, the project applicant would be required to submit a Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA. The FAA generally grants a Determination of No Hazard for temporary construction equipment. The City of San Jose, as the permitting agency for the project, would ensure consistency with this regulation and compliance with any of the FAA's conditions. For these reasons, project construction would not increase hazards due to a geometric design feature or incompatible uses; therefore, impacts would be less than significant.

Operation

Less Than Significant Impact. The project is located approximately 3.4 miles northeast 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 would be approximately 31 feet above ground level (AGL). The project's maximum structure height of 31 feet would not exceed the FAA's obstruction surface of 180 feet at the project site. As a result, the project applicant would not be required to submit Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA.

The project's emergency natural gas generators and chillers would discharge thermal plumes, high-velocity columns of hot air, during operation. Thermal plume velocities would be greatest at 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 2017), though it should be noted that while the FAA regulates the heights of physical structures, it does not regulate plumes. 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.

CEC 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.

To determine whether the project's thermal plume would exceed 10.6 m/s peak velocity at altitudes where aircraft would fly, staff performed a thermal plume analysis of the emergency natural gas-fired generators and chillers. Staff calculated that under worst-case weather conditions, calculation methods, and operating scenarios, the most conservative of all the generators including the natural gas generators, and the two administrative generators, the highest vertical velocity of plumes would be from the 1.25-MW administrative generator. The thermal plume from the 1.25-MW administrative generator would not drop below 10.6 m/s until an altitude of 70 feet AGL. The vertical velocity of plumes from the chillers would not drop below 10.6 m/s until an altitude of 88 feet AGL. Considering that the finished site elevation of the project would be 16.4 feet AMSL, the vertical velocity of plumes from all generators would not drop below 10.6 m/s until an altitude of 86.4 feet AMSL, and the vertical velocity of plumes from the chillers would not drop below 10.6 m/s until an altitude of 104.4 feet AMSL.

The high velocity (10.6 m/s and above) portion of the worst-case plume produced by the chillers would not encroach into the FAA obstruction surface (shown in Figure 6 of the CLUP) of 462 feet AMSL over the project site. Furthermore, aircraft would not be expected to be flying low enough over the project site to encounter potentially hazardous thermal plumes produced by the project's emergency natural gas-fired generators, administrative generators, and chillers. Title 14, Section 91.119 of the Code of Federal Regulations states that unless necessary for takeoff or landing, the minimum safe altitudes for aircraft are 500 feet AGL for non-congested areas and 1,000 feet AGL for congested areas, such as the area around the project site (CFR 2020b). As a result, impacts to aircraft from thermal plumes are expected to be less than significant.

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 land uses or thermal plumes. The project would not increase any other hazards. For these reasons, impacts would be less than significant.

d. Result in inadequate emergency access?

Construction and Operation

Less Than Significant Impact. The project site plan was reviewed for truck access using truck turning-movement templates for the California state legal truck type (WB-65 truck), which is the largest semi-trailer truck that would access the site. The new road (Nortech Parkway extension) security gates would also be adequate to serve these trucks. In addition, the on-site internal roadway network would be 26 feet wide, which meets the City's design guideline for minimum drive aisle width. Emergency vehicle access to the project site would be provided by two driveways. The driveway located along Alviso-Milpitas Road would be used for emergency access only while the driveway located along the new road, east of Zanker Road, would be used for truck and employee traffic (San Jose 2017). Nevertheless, both driveways would allow emergency vehicle access to the data center buildings, generator yards and substation. The City of San Jose, as the permitting agency, would ensure driveways providing access to the project site adhere to the city's design guidelines. Lastly, 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 and operation. Therefore, the impact would be less than significant.

4.17.3 Mitigation Measures

TRA-1: Prior to the issuance of any City of San Jose Public Works clearances, the project shall implement the following:

1. Increase Roadway Network Connectivity – The project owner shall construct a new street (an extension of Nortech Parkway) that shall extend east from Zanker Road and provide access to the project site. The new intersection created at Zanker Road/Nortech Parkway shall be signalized and shall be located approximately 400 feet north of the Zanker Road/Thomas Foon Chew Way intersection.
2. Traffic Calming Measures – The project owner shall construct a raised median island along Zanker Road between the new Nortech Parkway extension and the SR 237 westbound off-ramp.
3. Pedestrian Network Improvements – Pedestrian improvements at the new signalized intersection of Zanker Road and Nortech Parkway shall include striped crosswalks and pedestrian signals and push buttons. Sidewalks shall be included along both sides of Nortech Parkway.
4. Bike Access Improvements – The project owner shall construct a Class I Bikeway Trail extension along the east side of Zanker Road (within the City's right-of-way), connecting the existing trail segment with the new Nortech Parkway extension. Bike lanes shall be included along both sides of Nortech Parkway.
5. Limit Parking Supply – The project owner shall provide 122 vehicle parking spaces, which is 63 fewer spaces than what the City of San Jose Municipal Code requires. The project owner shall request a parking exception from the Director or Director's designee with the City of San Jose Planning Department Planning, Building, and Code Enforcement to qualify for the parking reduction.
6. End of Trip Bike Facilities – The project shall provide and maintain bike facilities for active alternative transportation users of the project. End of trip bike facilities shall include bike parking, bike lockers, showers, and personal lockers.

7. Commute Trip Reduction Marketing and Education – The project owner shall prepare and submit a Transportation Demand Management (TDM) plan for review and approval to the city of San Jose Public Works Department. As part of the TDM plan the project owner shall implement a marketing campaign targeting all employees that encourages the use of shared rides and active modes of transportation. Marketing strategies shall include new employee orientation on alternative commute options, event promotions, and publications. The project owner shall provide information and encourage the use of public transit, shared ride modes, and active modes to reduce drive-alone commute trips.

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4.18 Utilities and Service Systems

This section describes the environmental setting and regulatory background 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 inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Environmental checklist established by CEQA Guidelines, Appendix G.

4.18.1 Environmental Setting

Potable Water Supply

The project would be supplied with potable water provided by the city of San Jose. Potable water in the project area is provided by San Jose Municipal Water District (SJMWD). SJMWD gets water from three sources: Santa Clara Valley Water District (SCVWD), the San Francisco Public Utilities Commission (SFPUC), and groundwater from the Santa Clara groundwater basin (UWMP 2016). The project is located in the northern part of the city, which is served with water from SFPUC. According to the SJMWD's 2021 Urban Water Management Plan (UWMP), in 2020 SJMWD delivered 17,546 acre-feet (AF) of potable water and 4,097 AF of recycled water to its service area. The potable water demand in the area between 2020 and 2045 is projected to increase gradually up to 33,552 acre-feet per year (AFY) (San Jose 2021).

Recycled Water Supply

Recycled water is supplied to the city of San Jose 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. The RWF is located less than 1.0 mile northeast of the project site. 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 San Jose City Municipal Code and the General Plan have similar requirements. Recycled water would be used at the project for landscaping and cooling purposes. A recycled water connection that can serve the proposed project is located by the northwestern corner of the project site (Jacobs 2019a).

Wastewater Service

The city of San Jose's Department of Water and Sewer Utilities is responsible for the wastewater collection system within the city. Wastewater is collected by city's sewer systems 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 (San Jose 2021). 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 area. 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 2014.

Storm Sewer Service

The project would be constructed in the city of San Jose, within the Baylands watershed. The Baylands watershed drains to the San Francisco Bay, located just north of the proposed project site. The site is located east of the Guadalupe River and west of Coyote Creek. The city of San Jose owns and maintains the municipal storm drainage system in the vicinity of the project site. Storm water from the project site drains into Coyote Creek, which discharges to the San Francisco Bay.

Solid Waste

Solid waste and recycling collection for businesses at commercial and institutional properties in the city of San Jose is provided by Republic Services through a contract with the city. Republic Services collects waste using a Wet/Dry system. San Jose businesses receive "Wet" collection service for organics, such as food waste, and "Dry" collection service for recyclables and everything else. All waste is sorted locally at the Newby Island Resource Recovery Park. After sorting, recyclable materials are captured for reuse, diverting them from landfill and organic material is taken to a Zero Waste Energy Development facility, where it is put through an anaerobic digestion process, ultimately producing electricity and compost. Newby Island Landfill, located in San Jose, provides disposal capacity to nearby cities, including San Jose, Santa Clara, Cupertino, Los Altos, and Los Altos Hills. The Newby Island Landfill is permitted to accept a maximum of 3,260 tons of solid waste per day. In December 2016, the city of San Jose Planning Commission approved a vertical expansion of the Newby Island Sanitary Landfill where the permitted height was increased from 150 feet to 245 feet. The approved increase in elevation resulted in an increase of approximately 15.12 million cubic yards in the landfill capacity and an estimated closure date of January 2041 (Mercury News 2016).

Electric Power, Natural Gas, and Telecommunications

The project is located in the territory of San Jose Clean Energy (SJCE), a community choice energy program. SJCE procures electricity for its customers while Pacific Gas and Electric Company (PG&E) acts as the transmitter and distributor of electricity and is responsible for maintaining power lines. SJCE is governed by San Jose City Council, with input from a Community Advisory Commission (SJCE 2020).

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.

Natural gas would be supplied by PG&E. The project would include two separate natural gas supply lines at the southern border of the project site, which provide redundancy in the natural gas supply for both the generators as well as comfort heating. One natural gas supply line would interconnect with Line 109 and the other with Line 101.

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 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 2014.

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. Coyote Creek, east of the project site, is currently listed on the United States Environmental Protection Agency's Section 303(d) Listed Waters for California for diazinon and trash.

The San Francisco Bay RWQCB issued a Municipal Regional Storm Water NPDES Permit (Permit Number CAS612008) that requires the city of San Jose to implement a storm water quality protection program. This regional permit applies to 77 Bay Area municipalities, including the city of San Jose. 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 treatment controls, such as biotreatment facilities.

The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) assists co-permittees, such as the city of San Jose, 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 (per the city of San Jose Hydromodification Management Map). The project site is located in a catchment area with a hardened channel or drains to a tidal area; thus, the project site is not subject to the SCVURPPP hydromodification requirements.

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. A proposed residential development of more than 500 dwelling units.

b. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

c. A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

d. A proposed hotel or motel, or both, having more than 500 rooms.

e. 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.

f. A mixed-use project that includes one or more of the projects specified in this subdivision.

g. A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

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 (a) 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 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 well-studied service area with many service connections. In 2017, the city of San Jose City Council approved an Environmental Impact Report (EIR) for an earlier version of the San Jose Data Center project at the proposed project site known as the 237 Industrial Center Project. The water demand for that project would have been approximately 129.5 AFY of potable water, and 1,673 AFY of recycled water. Pursuant to the requirements of Senate Bill (SB) 610, the city of San Jose prepared a water supply assessment (WSA) for the earlier project (Jacobs 2019a – Appendix 3.19A). The WSA determined that the city had sufficient water supplies to meet the approved project's demand during normal, single dry, and multiple dry years. San Jose Municipal Water System (SJMWS) has the ability to meet the increased demand of the project in a variety of ways, such as purchasing additional water from SFPUC when available, relying more heavily on local groundwater resources, or encouraging conservation and recycled water use among its existing customers to reduce existing potable water demands. According to revised data submitted by the applicant in response to staff Data Request set # 6, demand for the proposed project would be about 1 AFY of potable water and 423 AFY of recycled water (Jacobs 2021y). Since those amounts are considerably less than the previously approved project's demand, it is reasonable to rely on the determination of the approved project WSA that the city would have sufficient supplies to meet the project needs. The potable demands of the proposed project fall within growth forecasts for industrial water use put forth in SJMWS's 2020 UWMP (San Jose 2021).

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, or Assembly Bill 939 (AB 939), requires cities and counties to reduce, by 50 percent (in reference to 1990 levels), 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.

California Senate Bill 350 (Renewable Energy Targets). SB 350, the Clean Energy and Pollution Reduction Act of 2015 was signed into law by California Governor Jerry Brown on October 7, 2015. This Bill calls for adoption of regulations to increase the procurement of electricity from renewable sources from 33 percent to 50 percent by 2030. SB 350 also requires establishment of annual targets for statewide energy efficiency savings and demand reduction by November 1, 2017. These energy efficiency savings and demand reductions will be designed to achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas use by January 1, 2030.

California Senate Bill 100 (The 100 Percent Clean Energy Act of 2018). SB 100 increases the target procurement of electricity from renewable sources to 60 percent by 2030 from the previous target of 50 percent identified in SB 350. Additionally, SB 100 targets 100 percent of electricity sold in California come from eligible renewable energy resources and zero-carbon resources by 2045. The adoption of SB 100 will impact the implementation of electric power facilities through 2045. The SB 100 Joint Agency Report: Charting a path to a 100 percent Clean Energy Future, estimates an increased utility-scale capacity of 145 GW by 2045, which includes in state and out of state renewable sources and energy storage.[1]

Local

City of San Jose General Plan. *Envision San Jose 2040 General Plan* includes numerous policies related to utilities and service systems applicable to all development projects in

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1 CEC, CPUC, CARB. 2021. California Energy Commission SB 100 Joint Agency Report Achieving 100 Percent Clean Electricity in California: An Initial Assessment. Report. p. 75. TN#237167. Available at https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SB-100

San Jose. These policies are designed to provide water supply, sanitary sewer, and storm drainage infrastructure facilities to meet future growth planned within the city and to assure high-quality service to existing and future residents while fulfilling regulatory requirements. The General Plan sets Measurable Environmental Sustainability (MS) goals and actions for San Jose through 2040.

- MS-2.8: This measurable action aims to develop policies which promote energy reduction for energy-intensive industries. For facilities such as data centers, which have high energy demand and indirect greenhouse gas emissions, it requires evaluation of operational energy efficiency and inclusion of operational design measures as part of development review consistent with benchmarks such as those in EPA's EnergyStar Program for new data centers. It also requires consideration of distributed power production for these facilities to reduce energy losses from electricity transmission over long distances and energy production methods such as waste-heat reclamation or the purchase of renewable energy to reduce greenhouse gas emissions.
- MS-5 and MS-6: These waste diversion and waste reduction goals set policies and actions to achieve solid waste reduction and diversion of 100 percent of waste from landfills by 2022, and maintaining the 100 percent diversion through 2040.
- IN-5.3: Use solid waste reduction techniques, including source reduction, reuse, recycling, source separation, composting, energy recovery and transformation of solid wastes to extend the life span of existing landfills and to reduce the need for future landfill facilities and to achieve the city's Zero Waste goals

City of San Jose Municipal Code. The city's Municipal Code includes regulations associated with water conservation and water diversion. City regulations include a Green Building Ordinance (Chapter 17.84) to promote practices to minimize the use of water and other resources in the city of San Jose, Water Efficient Landscape Standards for New and Rehabilitated Landscaping (Chapter 15.10), and a Construction and Demolition Diversion Deposit Program that encourages recycling of construction and demolition materials (Chapter 9.10).

San Jose Zero Waste Strategic Plan. The Zero Waste Strategic Plan sets policies to help the city of San Jose build a healthier community and achieve its Green Vision goals, including 75 percent diversion by 2013 and zero waste by 2022. The Green Vision also includes ambitious goals for economic growth, environmental sustainability, and an enhanced quality of life for San Jose residents and businesses.

4.18.2 Environmental Impacts

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 and Operation

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 under criterion "c", 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.

Electricity supply for construction and operation of the proposed project would be procured by SJCE and delivered by PG&E. SJCE has 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. While total supply and demand is not published by SJCE, it is continually entering into agreements to procure clean energy from different sources. According to SJCE's web site, it recently entered into agreements for a total of approximately 500 MW of wind and solar energy, commencing by the end of 2021 or 2022 (SJCE 2021). Construction and operation of the project would require two approximately 1,000-foot long electrical supply lines. The electrical supply lines would be located along the eastern boundary of the project site via approximately 1,100 feet of underground duct bank anticipated to be located within the proposed perimeter road along the eastern project site boundary (Jacobs 2020d), the construction of which would not require substantial additional disturbance.

Therefore, potential impacts would be less than significant.

Telecommunication services for the proposed project would be provided by providers that have been serving the existing businesses in the project area. Those providers 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.

The project is expected to use approximately 2,818 MMbtu per unit at a maximum operation of 509 hours. At that rate, the total natural gas demand for the project's 224 gas generators would be approximately 593 million cubic feet per year. Natural gas would be supplied by Pacific Gas and Electric (PG&E). Demand during operations would not be substantial on a regional or statewide scale. As discussed in **Section 4.6 Energy and Energy Resources**, PG&E's available natural gas supply represents far more gas than would be required for a project of this size. PG&E provides more than 970 billion cubic feet of natural gas per year (PG&E 2021). The project's natural gas usage constitutes a small fraction (less than 0.062 percent) of the capacity PG&E provides annually. The project would not require new or expanded natural gas infrastructure. Therefore, the project would have less than significant impacts.

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 and Operation

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 groundwater from the Santa Clara Valley groundwater basin. The proposed project is located in an area served primarily with surface water from SFPUC. As noted in the regulatory background, a WSA was developed for a prior proposed development on the project site. The WSA concluded that the water providers had adequate supply to address needs during normal, single dry, and multiple dry water years during a 20-year projection. The WSA considered a demand of 129.5 AFY of potable water and 1,673 of recycled water for cooling and landscape purposes (San Jose 2017b).

Project construction is expected to last for about 16 months, during which water demand would be approximately 51 AF primarily used for dust control. This is equivalent to an average annual demand of about 38 AFY. Project demand for potable and recycled water during operations is expected to be up to 1 AFY and 423 AFY respectively. These quantities are well below the amounts analyzed in the WSA.

Based on the WSA, there are sufficient quantities of both potable and recycled water for project use, and thus the impact on water supplies would be less than significant.

The WSA also concluded that the previously approved project with the much larger demand would be consistent with the growth projections and future water demand assumed in the preparation and analysis of the 2015 UWMP. The use is also consistent with the most recent 2020 UWMP which shows that actual consumption of potable and recycled water in 2020 were approximately 6,000 and 1,000 acre-feet, respectively, less than the amounts projected for 2020 in the 2015 UWMP. Impacts on the local water supply for project operation would therefore be less than significant.

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Construction and Operation

Less Than Significant Impact. As stated above in the "Environmental Setting" subsection, 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 89 gallons per minute, or approximately 130,000 gallons per day (Jacobs 2021p), which is less than 0.1 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 impact on wastewater treatment facilities would be less than significant. The majority of the project site is currently covered with pervious surfaces except for about 1.0 acre of impervious area. The proposed project would reduce the amount of pervious areas at the site by about 48 acres (2,100,000 sq. ft.), or 75 percent, which would have the potential to increase storm water runoff. The proposed project would include a storm water collection system that would be designed to maintain storm water runoff to within historic rates. The storm water collection system would also include storm water biotreatment areas, which improve the quality of the discharged stormwater (by controlling sedimentation) and also contribute to reduction in the overall runoff. In addition, the project would construct a 100-foot buffer zone from the toe of the Coyote Creek levee along the eastern boundary of the site to minimize any storm water impacts to the existing levee and to control the discharge of storm water. Furthermore, the project would be required to comply with the city of San Jose's Post-Construction Urban Runoff Policy No. 6-29, Municipal NPDES Permit, and the SCVURPPP. The plans and permits work together to establish specific requirements to reduce storm water pollution from new and redevelopment projects. They also require post-construction storm water runoff to be treated by appropriately sized low impact development treatment controls. The impact from the project on the storm water system capacity would therefore be less than significant.

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 and Operation

Less Than Significant Impact. Demolition and construction activities for the project would result in minor amounts of solid wastes and a temporary increase in solid wastes. Operations would result in long-term generation of a small amount of solid waste (130 pounds, or 0.07 tons, per day). The solid waste would be disposed of at the Newby Island Landfill in San Jose. As a result of a city of San Jose approved expansion, the Newby Island Landfill has adequate capacity estimated to last through January 2041 (Mercury News 2016). The project would not significantly increase solid waste generation and could be accommodated by existing solid waste facilities., and the impact resulting from construction and operation of the proposed project on landfill capacity would be less than significant.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Construction and Operation

No 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 (Jacobs 2019a). Typically, data centers do not generate special or unique wastes. Likewise, the project 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 4.9 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.

4.18.3 Mitigation Measures

None.

4.18.4 References

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4.19 Wildfire

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

WILDFIRE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
i. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
ii. 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?	☐	☐	☐	☒
iii. 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?	☐	☐	☐	☒
iv. 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.

4.19.1 Environmental 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 Tier 1, Tier 2, or Tier 3. Tier 1 (or CAL FIRE Zone 1) encompasses High Hazard Zones (HHZ) on the United States Forest Service (USFS) 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 agricultural land and industrial development in the City of San Jose 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 San Jose 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.

4.19.2 Environmental Impacts

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

i. 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

No Impact. The project does not involve the addition of a large number of people to the local area that could increase emergency response demand during a potential evacuation. Thus, the project would not interfere with the coordination of the county'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 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.

ii. 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 and Operation

No Impact. The topography of the project site is flat and the area surrounding the project is a mixture of agricultural, commercial, and industrial development with minimal slopes.

Though some of the land surrounding the site could contain grass subject to ignition, most of the surround land in maintained. 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.

iii. 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 construct several offsite linear features that include a potable water line, a reclaimed water line, a sanitary sewer line, an electrical supply line, and a storm water drainage line. The construction of these utilities would not block access to any road or result in traffic congestion. The potable, reclaimed, storm water, and sanitary lines would be underground utilities that travel mostly through undeveloped, fallow agricultural land or follow existing paved roadways. The electrical supply line would exit the northeastern side of the project's proposed substation, and head south to the existing PG&E substation located to the south of the project's proposed substation. The electrical supply line would be constructed overhead on transmission poles and would follow the fence-line of the proposed substation and the existing PG&E substation. Any large trees that would be crossed by the electrical supply line would be trimmed or removed consistent with electric reliability requirements. Therefore, the constructed electrical supply line and other project infrastructure would not constitute a possible ignition source for local vegetation, nor would it block access to any road or result in traffic congestion.

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

Less Than Significant Impact. The project would not require the installation of associated infrastructure that could exacerbate fire risk or result in impacts to the environment. Maintenance of the project and proposed utilities 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.

iv. 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. The project would therefore not be expected to contribute to a flooding hazard onsite or offsite. For further discussion of the potential flooding impacts that could result from the construction of the proposed project, please see the discussion in **Section 4.10 Hydrology and Water Quality**.

As discussed in this section, the topography of the project site and surrounding area is relatively flat. 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.

Operation

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 San Jose'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 minimally 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.

4.19.3 Mitigation Measures

None.

4.19.4 References

CalFire 2020 – California Department of Forestry and Fire Protection (CalFire). *Santa Clara County FHSZ Map in Local Responsibility Area*. Accessed on: February 10, 2020. Accessed at: https://osfm.fire.ca.gov/media/6766/fhszs_map43.pdf

4.20 Mandatory Findings Of Significance

This section describes impacts specific to mandatory findings of significance associated with the construction and operation of the project.

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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation Incorporated.

Biology Resources

Less Than Significant with Mitigation Incorporated. 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 a rare, threatened, or endangered species.

The proposed project site had been used historically for farming since the early 1920s, but is no longer in agricultural use. There were two vacant residences, a mobile home, and a storage shed/warehouse onsite; these recently burned down and have been removed. Coyote Creek runs to the east of the proposed project site. Habitat types onsite consist of agricultural fields (short-term fallowed), annual grassland, and developed portions of the site.

While no special status plants or wildlife are known to occur directly on the project site, Coyote Creek may serve as a movement corridor for wildlife and provide nesting habitat for birds, and foraging for wildlife onsite. Trees onsite and along the linears may also provide nesting habitat. Additionally, the site is immediately southeast of the San Francisco Bay, which empties into the Guadalupe and Alviso sloughs, and is less than two miles southeast of the Don Edwards San Francisco Bay National Wildlife Refuge. In general, areas surrounding the project site are rich in abundance and diversity of flora and fauna, including the San Jose/Santa Clara Regional Wastewater Treatment Plant sludge drying beds to the north, which provide habitat for shorebirds and waterbirds, and associated wildlife species may occur as transients on the site.

The project proponent proposed a wide variety of avoidance and mitigation measures. Staff reviewed these, and, where necessary, proposed additional measures that supplanted gaps in the mitigation package, or replaced proposed measures with additional, refined language. Staff's measures were developed in consultation with applicable resource agencies, and with additional input from a local organization (San Francisco Bay Bird Observatory).Staff has proposed measures to ensure that no significant impacts to special status plants or wildlife occur on or adjacent the project site, prior to the onset of construction, such as preconstruction measures for nesting birds (**BIO-1**), including tricolored blackbird (**BIO-2**), measures to search for, protect, and avoid burrowing owl (**BIO-4** through **BIO-6**), prepare and submit a tree protection plan (**BIO-12**), prepare an aquatic resources delineation report (**BIO-14**), survey for the special-status Congdon's tarplant (**BIO-15**), perform surveys and avoidance measures for the San Francisco dusky-footed woodrat and ringtail (**BIO-16**), and avoidance of the salt marsh harvest mouse (**BIO-17**). **Table 4.20-1** provides a summary table of proposed mitigation measures, which are fully reported in **Section 4.4 Biological Resources**.

The proposed project's indirect impact from nitrogen deposition on sensitive habitats would be significant. The project's incremental effect in addition to other sources of nitrogen deposition would be cumulatively considerable. See Criteria b, below for additional information regarding cumulative nitrogen deposition impacts.

TABLE 4.20-1: AVOIDANCE AND MITIGATION MEASURES	
BIO-1	conduct pre-construction surveys for nesting migratory birds
BIO -2	surveys for tricolored blackbirds
BIO -3	pay Santa Clara Valley Habitat Plan mitigation fees for burrowing owl habitat
BIO -4	preconstruction surveys for burrowing owls
BIO -5	buffers for burrowing owl in non-breeding season
BIO -6	passive relocation for burrowing owl
BIO -7	development of a Stormwater Pollution Prevention Plan
BIO -8	daily monitoring of the 0.066 onsite wetland
BIO -9	limit removal of wetland vegetation and trees to extent possible
BIO -10	Use only locally native or nonnative seed mixtures for revegetation
BIO -11	comply with all applicable laws and regulations regarding requirements of the CDFW, USACE, and RWQCB; obtain permits as necessary
BIO -12	submit a Tree Protection Plan to the city of San Jose
BIO -13	develop and deploy a worker environmental awareness program
BIO -14	prepare an aquatic resources delineation covering the entire project area
BIO-15	perform protocol-level surveys for Congdon's tarplant
BIO-16	preconstruction surveys and avoidance measures for San Francisco dusky-footed woodrat and ringtail
BIO-17	avoidance of impacts to salt marsh harvest mouse
BIO-18	pay a nitrogen deposition fee for new daily vehicle trips for mobile emission sources
BIO-19	pay mitigation fees pursuant to the SCVHCP should wetlands be disturbed or adversely impacted
BIO-20	pay temporary and permanent mitigation fees pursuant to the SCVHCP to the City for the conversion of Fee Zone B habitat

With implementation of the above mitigation and avoidance measures, the project would not 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.

Additional measures that would ensure ongoing viability of wildlife movement corridors such as Coyote Creek include control of stormwater or pollutant runoff (discussed further in **Section 4.10 Hydrology and Water Quality**) via a National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), and Impacts to the Coyote Creek corridor, such as glint and glare (lighting) are covered by **Section 4.1 Aesthetics**, which concludes that a "Less Than Significant Impact" would occur. "Construction and operation of the project would not create a new source of substantial light or glare adversely affecting day or nighttime views in the area". This also requires that all lighting be downcast and away from natural areas (Envision San Jose 2040 General Plan Policy ER-2.3, Policy ER-6.3, and Policy ER-7.1).

Cultural and Tribal Cultural Resources

Less Than Significant with Mitigation Incorporated. Important examples of the major periods of California history or prehistory represented by historical, unique archaeological, or tribal cultural resources are not 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 4.5 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. Implementation of **CUL-1** through **CUL-6**, included in **Section 4.5 Cultural and Tribal Cultural Resources** would reduce the impacts to buried cultural resources to a less-than-significant level. The proposed project therefore is unlikely to eliminate important examples of major periods of California history or prehistory, therefore the impact would be less than significant.

Geology and Soils

Less Than Significant with Mitigation Incorporated. Significant paleontological resources that represent important examples of the major periods of California prehistory are known to be present in the project area. The extent of proposed ground disturbance has the potential to damage unknown, buried paleontological resources in the project footprint. As described in **Section 4.7 Geology and Soils**, paleontological resources may be buried beneath the ground surface in Pleistocene age sediments. Five fossil sites have been found at or near the ground surface within several miles of the project site, particularly along stream beds (UCMP 2020). If significant paleontological resources were to be exposed or destroyed, it would be a significant impact. Adherence to the city of San Jose General Plan (San Jose 2020) policies (ER-10.1 and ER-10), and implementation of **GEO-1** included in **Section 4.7 Geology and Soils** would reduce the impacts to buried paleontological resources to a less-than-significant level. The proposed project therefore is unlikely to eliminate important examples of paleontological resources that are part of the prehistory of California, therefore the impact would be less than significant.

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.

General Plan Projection

This section evaluates cumulative impacts using the *Addendum to the Envision San Jose 2040 General Plan Final Program Environmental Impact Report and Supplemental Program Environmental Impact Report* (Addendum) (San Jose 2016) and the *Final*

Environmental Impact Report for the Envision 2040 General Plan (General Plan FPEIR) (San Jose 2011).. The Addendum identified that build out of the *Envision San Jose 2040 General Plan* (General Plan) would contribute to five, significant and unavoidable cumulative impacts in the areas of biological resources, land use and agricultural resources, noise, population and housing, and transportation (San Jose 2016).

General Plan Significant Unavoidable Impacts

The General Plan FPEIR identified the following significant unavoidable environmental impacts applicable to the proposed project:

- Biological Resources – Cumulative development would result in emissions of nitrogen compounds that could affect the species composition and viability of sensitive grasslands.
- Land Use and Agricultural Resources – Build-out of the General Plan in the north Coyote Valley area in conjunction with other planned or proposed development would make a cumulatively considerable contribution to cumulative impacts on agricultural resources.
- Noise – Increased development in the South Bay Area will result in a significant increase in traffic noise levels on roadway segments throughout the region, beyond accepted noise thresholds in various communities.
- Population and Housing – Build-out of the General Plan in conjunction with other planned development would contribute cumulatively to impacts arising from a regional jobs-housing imbalance.
- Transportation – Build-out of the General Plan in conjunction with other planned development in the South Bay Area would result in a substantial contribution to cumulatively significant regional transportation impacts on roadways and highways.

With the exception of impacts to agriculture and forestry resources, the project, in combination with future development in the City of San Jose, the project could conceivably have a significant cumulative impact to these environmental resources; however, the following discussion demonstrates how the project's contribution to these impacts would be less than cumulatively considerable and thus less than significant with the incorporation of mitigation identified in this project EIR.

Biological Resources

Less Than Significant with Mitigation Incorporated. As previously mentioned, the General Plan FPEIR identifies significant and unavoidable impacts on sensitive habitat from nitrogen deposition (San Jose 2011). The General Plan includes policies to reduce the city of San Jose's contribution to regional impacts to sensitive habitat, and special status species populations from new development (San Jose 2020). Implementation of the General Plan would reduce nitrogen oxide emissions from vehicle trips through planned multi-modal improvements, trip reduction programs, and local land use strategies.

Nitrogen deposition impacts would require the establishment and implementation of managed serpentine grassland preserves.

With a projected increase in vehicle miles traveled, beyond or above the growth in population and employment, implementation of the General Plan would contribute to increased oxides of nitrogen (NOx) emissions in the San Francisco Bay Area Basin. Regional nitrogen deposition impacts to serpentine habitats in southern San Jose and Santa Clara County is a cumulative issue that is addressed through the SCVHP; except emissions from point sources (e.g., generators). As described in **Section 4.4 Biological Resources**, nitrogen deposition leads to the enhancement of invasive non-native weeds, which is a result of the cumulative emissions of many sources within the region.

Three NOx-sensitive habitats occur within six miles of the project site: Northern Coastal Salt Marsh Habitat, critical habitat, and serpentine habitat. In Northern Coastal Salt Marsh Habitat, special-status species occur such as: salt marsh common yellowthroat, California Ridgway's rail, yellow rail, Alameda song sparrow, salt-marsh harvest mouse, salt marsh wandering shrew, Point Reyes birds'-beak and saline clover. However, additional modeling and mapping prepared by Air Quality staff and Biological Resources staff have determined that nitrogen deposition in sensitive habitat such as critical habitat for the Alameda whipsnake, the California red-legged frog, the California tiger salamander, vernal pool tadpole shrimp, Contra Costa goldfields, and serpentine bedrock would be zero kg N/ha/year, and therefore, no incrementally cumulative impacts would occur (see **Section 4.4 Biological Resources, Figure 4.4.-1**, **Figure 4.4-2**, and **Figure 4.4-3**). Deposition of NOx in Western snowy plover habitat is modeled to be 0.1 kilograms of nitrogen per hectare per year (kg N/ha/yr), and is also well below critical thresholds (also called "critical load") where adverse impacts would occur (**Figure 4.4-1**).

Measure **BIO-18** requires a one-time fee of $1,642.86 proportional to the proposed project's contribution of nitrogen deposition for new vehicle trips (mobile sources). Payment of this one-time nitrogen deposition fee would mitigate the proposed project's incremental contribution towards nitrogen deposition within sensitive habitat to less than cumulatively considerable. Staff recommends **BIO-7** (see **Section 4.4 Biological Resources**) to reduce the project's contribution to significant cumulative impacts from non-point sources.

Measure **BIO-19** requires a fee payment to the city should onsite wetlands be impacted, and **BIO-20** requires a fee payment to the city for the temporary and permanent loss of Fee Zone B lands, per the SCVHP (2012) and Santa Clara Valley Habitat Agency (2020). These fees would mitigate the conversion of habitat to developed, and would reduce the project's contribution to significant cumulative effects to below the level of significance.

Similarly, per the SCVHP (2012), prior to ground disturbance, tree preconstruction surveys would be require (**BIO-12**) as well as mitigation measures to ensure protection of any impacted ordinance-size trees onsite (**BIO-9, BIO-12**, and **BIO-13**) (see **Section 4.4 Biological Resources**) for more information). Removal of ordinance-sized trees would require a permit, to which the applicant has already agreed (**Section 4.4 Biological Resources,** Jacobs 2019a).

Emergency Operations of the Backup Generators. Staff has provided an evaluation of the emergency operations of the generators and how it affects nitrogen deposition. See **Section 4.3 Air Quality** and **Appendix C**, under California Environmental Quality Act (CEQA) impact criterion "a" for more information.

Land Use and Agricultural Resources

Less Than Significant Impact. Use regulations for properties in the Light Industrial zoning district specify that a data center requires a Special Use Permit (San Jose 2021, § 20.50.100, subd. (E); Table 20-110). The Zoning Code specifies several findings that must be made by the planning director, planning commission, or city council to allow issuance of a Special Use Permit (San Jose 2021, § 20.100.820). The findings include requirements that the project must be consistent with the policies of the General Plan, applicable specific plans, and the city of San Jose Municipal Code. The proposed use must not be detrimental to the public health, safety, or general welfare, and the proposed site must be adequate in size and shape to accommodate the development features (yards, walls, fences, parking, landscaping, etc.). The city of San Jose's issuance of a Special Use Permit and any related conditions of approval prior to construction would ensure the project would be consistent with local land use regulations, and that there would be no cumulative impacts from conflicts with local land use regulations.

No Impact. As discussed in **Section 4.2 Agriculture and Forestry Resources**, the Farmland Mapping and Monitoring Program (FMMP) classification of the project site converted from Prime Farmland to Grazing Land during the 2012-2014 reporting period. The Santa Clara County land use conversion table for 2006-2008 noted that the conversion from Prime Farmland to Grazing Land occurred primarily due to land left idle for three or more update cycles. Former agricultural uses on the project site and adjacent properties ceased around the year 2000. Under CEQA, conversion of Farmland to nonagricultural use applies only to Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. The project site is not mapped under any of these Farmland classifications. Therefore, the project would not convert Farmland to a non-agricultural use, and no impact would occur. For this reason, the project would not contribute to cumulative impacts on loss of Farmland, including Prime Farmland.

Noise

Less Than Significant with Mitigation Incorporated. The General Plan FPEIR 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 4.17 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 construction workers commute, and trucks deliver construction materials, to the project site. These trips would be temporary in nature; therefore, they would not significantly add to regular traffic.

Noise from construction vehicles would result in a less than significant impact. The 100 operational employees would generate minimal daily trips and would not substantially increase the traffic or associated traffic-related noise levels 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. Noise from construction activities could result in impacts to the nearby businesses, but with the implementation of **NOI-1**, construction noise impacts would be reduced to less than significant. Construction noise is temporary so would not result in a cumulative impact.

Population and Housing

Less Than Significant Impact. The General Plan FPEIR identified significant impacts from the job growth allowed under the General Plan. The General Plan FPEIR concluded that substantial residential development could be required elsewhere in the region to provide adequate housing opportunities to future workers. As described in **Section 4.14 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 approximately 100 employees. The project's construction and operation workforce would not directly or indirectly induce a substantial population growth in the project area. Therefore, the project's contribution to the jobs-housing imbalance would not be cumulatively considerable.

Transportation

Less Than Significant with Mitigation Incorporated. The General Plan FPEIR anticipates significant traffic impacts from the build-out of the General Plan. As discussed in **Section 4.17 Transportation**, implementation of **TRA-1** would reduce the project generated VMT to a level below the city's industrial threshold and reduce the project impact to a less than significant level. With implementation of **TRA-1**, the project's contribution to cumulative transportation impacts during project construction and operation would not be cumulatively considerable.

Other Technical Areas

Although the city's General Plan FPEIR did not identify significant effects in the areas of air quality, cultural resources, and geology (paleontology), and did not include an analysis of impacts to tribal cultural resources as the General Plan FPEIR was adopted before the passage of AB52 requiring such analysis, CEC staff concluded that the project's impacts in these areas are *less than significant with mitigation*. Thus, staff has considered whether the project would contribute to cumulatively considerable impacts in these areas. Staff has also included an analysis of potential cumulative impacts for the other technical areas where project impacts would be *less than significant.*

Aesthetics

Less Than Significant Impact. The proposed project is located on relatively flat land in a developed industrial area in the northern tip of the city of San Jose, specifically intended for a wide variety of industrial uses including warehousing, wholesaling, and light manufacturing. The baylands are about one and a quarter mile to the northeast, and the downtown San Jose high-rise skyline seven miles south.

There are no scenic vistas as discussed in **Section 4.1 Aesthetics** in the project area. Existing aboveground buildings, structures, earthworks, equipment, trees, and vegetation, et cetera block or limit public views of the project and new or foreseeable projects from scenic resources.

The project and new or foreseeable projects within this urbanized area would not conflict with applicable city zoning and other regulations governing scenic quality.

The project and new or foreseeable projects within this urbanized area would not conflict with applicable city zoning and other regulations governing scenic quality.

The project and other projects typically include outdoor lighting for driveways, entrances, walkways, parking areas, and security purposes. City requirements call for light fixtures to be shielded and directional. Pole-mounted lighting is not to exceed 25 feet in height. All lighting is to be directed onsite and away from riparian areas (Coyote Creek riparian corridor).

Air Quality

Less Than Significant with Mitigation Incorporated. 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 is 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 nonattainment 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. CEQA would then require implementation of all feasible mitigation measures.

The demolition and 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 would be required to incorporate the BAAQMD's recommended BMPs and staff identifies this as mitigation measure **AQ-1**. Therefore, the project's construction emissions would not be cumulatively considerable.

For project operation, including readiness testing and maintenance, NOx emissions of the standby generators are not estimated to exceed the BAAQMD significance threshold of 10 tons per year. All other pollutants would also have estimated emission rates below BAAQMD significance thresholds. Because the facility would emit less than 10 tons per year of NOx or volatile organic compounds (VOC), the applicant would not be required to provide any offsets. As discussed in **Section 4.3 Air Quality**, the daily average and annual emissions of criteria air pollutants and precursors during total project operation would not exceed any applicable threshold of significance, and the project would not result in a cumulatively significant emissions increase. Therefore, the project emissions during operation, including readiness testing and maintenance would not be cumulatively considerable.

Applicant and staff completed criteria pollutant air quality impact analyses of potential generator operation at any hour of the year. All modeling scenarios allow for simultaneous use of the natural gas-fired generators with the two diesel-fired administrative generators. These analyses found that the concentrations from operation of the standby engine generators would not cause any exceedance of ambient air quality standards. Therefore, the project's criteria air pollutant impacts from project operation, including readiness testing and maintenance would be less than significant.

Due to the very high reliability of the Silicon Valley Power system, the project's emergency operations are not likely to cause exceedance of the ambient air quality standards downwind of the project and operate more than the 509 hours already analyzed.

Staff also reviewed the applicant's health risk assessment (HRA) for and construction and operation (including standby generator readiness testing and maintenance, grid support). Such operation is not likely to exceed BAAQMD significance thresholds for cancer, non-cancer chronic and non-cancer acute health risks. Even when all standby engine generators are operating concurrently, the health risks would be below BAAQMD significance thresholds. The HRA also shows that the project would not expose sensitive receptors to substantial toxic air contaminants.

Therefore, the project's air quality impacts would not be cumulatively significant.

Cultural and Tribal Cultural Resources

Less Than Significant Impact with Mitigation Incorporated. The General Plan FPEIR 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 suite of mitigation measures for cultural resources presented in the General Plan FPEIR 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 **CUL-1** through **CUL-6** would prevent, minimize, or compensate for impacts on buried, tribal cultural resources. Project impacts to tribal cultural resources therefore would not be cumulatively considerable.

Energy and Energy Resources

Less Than Significant Impact. The project would use 244 natural gas internal combustion engines (ICEs) for load shedding and emergency backup generation, and two small diesel-fired generators for administration needs. The total number of hours of operation from the ICEs for load shedding and operation for reliability purposes would be limited to no more than 509 hours annually and 42 hours from the administration generators. While the applicant used 500 hours when estimating air emissions, the applicant's responses to Data Request Set #6 state that the "BIP currently requires a 30-minute response to an event dispatch and requires participants to be available up to 180 hours per year; however, historically it has not been called more than 30 hours annually in the last 12 years." (Jacobs 2021y).

At a rate of 509 hours, the total quantities of natural gas and diesel fuel used for all the generators operating at full load would be approximately 593 million cubic feet per year (mmft^3/yr) and 152 barrels per year (bbl/yr), respectively. PG&E provides more than 970 billion cubic feet of natural gas per year. The project's natural gas usage constitutes a small fraction (less than 0.062 percent) of the capacity PG&E provides annually. Additionally, there are 12 underground natural gas storage fields in California with a total working gas capacity of 375 billion cubic feet. California has diesel fuel supply of approximately 316,441,000 bbl/yr. The project's use of diesel fuel constitutes a small fraction (less than 0.000048 percent) of available resources. Both natural gas and diesel fuel supply are more than sufficient to meet necessary demand of the project. For these reasons, the project's use of natural gas and diesel fuel is less than significant.

The project's consumption of energy resources during operation would not be inefficient or wasteful, as discussed in **Section 4.6 Energy and Energy Resources**. Project operation would have a less than significant adverse effect on local or regional energy supplies and energy resources and likewise, would not be cumulatively considerable.

Geology and Soils

Less Than Significant with Mitigation Incorporated. The General Plan identifies two policies (ER-10.1 and ER-10.3) that specifically address impacts on paleontological resources (San Jose 2020). Paleontological resources can be impacted by the effects of ground-disturbing activities. Five fossil sites have been found at or near the ground surface within several miles of the project site, particularly along stream beds (UCMP 2020). The suite of mitigation measures for paleontological resources presented in the General Plan FPEIR would reduce the severity of some impacts on paleontological resources. No known paleontological resources have been found on the project site.

Ground disturbance associated with the proposed project could result in the exposure and destruction of buried, as-yet unknown paleontological resources that could qualify as significant paleontological resources. Implementation of **GEO-1** would prevent, or minimize, impacts on buried paleontological resources. Project impacts to paleontological resources therefore would not be cumulatively considerable.

Greenhouse Gas Emissions

Less Than Significant Impact with Mitigation Incorporated. The BAAQMD CEQA Air Quality Guidelines do not identify a greenhouse gas (GHG) emissions threshold for construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and the impacts be determined 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 operation, including readiness testing and maintenance-related emissions, the BAAQMD CEQA Air Quality Guidelines states that for stationary-source projects, 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). For commercial/industrial land use development projects, BAAQMD has adopted a numeric threshold of 1,100 $MTCO_2e$/yr and a qualitative threshold of complying with a qualified GHG reduction strategy. The 10,000 MTCO2e/yr threshold would apply to the proposed project, which includes stationary sources that are subject to BAAQMD permitting, and the project would not be subject to the 1,100 MTCO2e/yr threshold recommended for commercial/industrial land use developments.

Other project-related emissions from mobile sources, area sources, energy use and water use, would not be included for comparison to 10,000 MTCO2e/yr threshold, based on BAAQMD's 2017 CEQA Guidelines. GHG impacts from all other project-related emission sources would be considered to have a less-than-significant impact if the project is consistent with the city of San Jose GHG Reduction Strategy and applicable regulatory programs and policies adopted by the Air Resources Board or other California agencies, which are considered a qualified greenhouse gas reduction strategy.

With the implementation of the mitigation measures described in **Section 4.8 Greenhouse Gas Emissions** of this analysis (**GHG-1** and **GHG-2**), the project would ensure that the project-related emissions would not significantly add to the global problem of climate change, nor would the project hinder California's ability to reach California's GHG reduction goals in any significant way, even when considered cumulatively.

Additionally, the project would implement efficiency measures to meet California green building standards, and additional voluntary efficiency and use reduction measures. Indirect GHG emissions from energy used by the project and supplied by PG&E will comply with California's Renewables Portfolio Standard and Cap-and-Trade Program requirements. As such, with mitigation measures identified in **Section 4.8 Greenhouse Gas Emissions**, GHG emissions related to the project would not conflict with the city of San Jose GHG Reduction Strategy or other plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs. Therefore, the project's GHG emissions would not be considered cumulatively significant.

Hazards and Hazardous Materials

Less Than Significant with Mitigation Incorporated. As discussed in **Section 4.9 Hazards and Hazardous Materials** the project would use hazardous materials in small quantities as associated with construction. These hazardous materials would be stored in designated construction staging areas in compliance with local, state, and federal requirements. Any diesel fuel transported on site would also comply with the extensive regulatory framework that applies to the shipment of hazardous materials. The project would use natural gas for the generators, but it would not be stored on site. The risk of a fire on site would be reduced to less than significant through adherence to applicable codes and the use of effective safety management practices. In addition, the applicant would implement procedures, safety features, and precautions that would reduce the risk of an accidental hazardous materials release. With incorporation of **HAZ-1** and **HAZ-2**, any contaminated soil encountered would be disposed of properly. Therefore, the impact from the use, transport, disposal, or accidental release of hazardous materials would not be considered cumulatively significant.

Hydrology and Water Quality

Less Than Significant Impact. The project would be required to comply with the city of San Jose's Post-Construction Urban Runoff Policy No. 6-29, the Municipal National Pollutant Discharge Elimination System Permit, and the Santa Clara Valley Urban Runoff Pollution Prevention Program. The plans and permits work together to establish specific requirements to reduce storm water pollution from new and redevelopment projects, singularly and cumulatively. If implemented as described in **Section 4.10 Hydrology and Water Quality** of this analysis, these standards would protect the watershed receiving discharge from the project from a cumulatively considerable impact to the basin's hydrology. Similarly, these same plans and permits would be protective of water quality. These standards would be protective of the quality, of both surface water and groundwater bodies, receiving discharge from the project.

Public Services

Less Than Significant Impact. As discussed in **Section 4.15 Public Services**, the construction and operation of the project would not result in substantial adverse physical environmental impacts associated with the provision of new or physically altered fire and police service facilities in order to maintain acceptable service ratios, response times, or other performance objectives. The project would be consistent with the planned growth in the general plan. The project facilities would undergo city of San Jose building design reviews to verify that the facility conforms to the applicable San Jose Municipal Fire and Environmental Codes.

In accordance with California Government Code Section 65996, the project would be required to the appropriate school impact fees to the Santa Clara Unified School District. Operation of the project is anticipated to require approximately 100 employees, which the applicant anticipates would be drawn from the great Bay Area. Even if all of the operation workforce would relocate closer to the project site, the additional population would be consistent with growth projections and service ratios in the General Plan and thus the project would not cause significant environmental impacts associated with the provision of new or physically altered park and other public facilities in order to maintain acceptable service ratios or other performance objectives. The project's impacts to the public services would not be cumulatively considerable.

Recreation

Less Than Significant Impact. As discussed in **Section 4.16 Recreation**, the project includes an extension of a Class I improved bike trail on the east side of Zanker Road from the intersection of the existing bike trail along Zanker Road to the new Nortech Parkway extension to provide a trail connection to the Coyote Creek Trail. The project would not increase the use of or accelerate the physical deterioration of parks or other recreation facilities. Operation of the project is anticipated to require approximately 100 employees. The project's operation workforce would be consistent with growth projections and service ratios in the General Plan and thus the project would not increase the use of existing parks or recreational facilities to the extent that substantial physical deterioration of the park or facility would result. The project's impacts to recreation would not be cumulatively considerable.

Utilities and Service Systems

Less Than Significant Impact. As determined in **Section 4.17 Utilities and Service Systems**, adequate water supply as well as water and wastewater treatment capacity are available to serve the project. Likewise, there are adequate telecommunication and natural gas resources in the project area to meet the project's needs.

The city of San Jose has available landfill capacity at the Newby Island Landfill through 2041. The current landfill impacts are addressed within an ongoing Santa Clara County Integrated Waste Management Plan 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 less than significant temporary impacts to human health during construction, including changes to air quality, and exposure to geologic hazards, noise, and hazardous materials. As discussed in **Section 4.3 Air Quality**, with implementation of **AQ-1**, which includes the BAAQMD's recommended BMPs for fugitive dust and construction equipment emissions, the project would result in a less than significant impact related to human health. As discussed in **Section 4.7 Geology and Soils**, impacts to people or property associated with geologic or seismic conditions onsite would be less than significant. The project would result in temporary noise impacts to humans during construction and intermittently during operation. As discussed in **Section 4.13 Noise**, noise impacts would be less than significant with the inclusion of **NOI-1**. As discussed in **Section 4.9 Hazards and Hazardous Materials**, hazards impacts would be less than significant with the implementation of **HAZ-1** and **HAZ-2**. As discussed in **Section 4.10 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.

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4.21 Environmental Justice

This section describes the environmental setting and regulatory background, and discusses impacts specific to environmental justice associated with the construction and operation of the project.

4.21.1 Environmental Setting and Regulatory Background

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, page 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 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 analyses 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 Energy Commission Siting 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

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.

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 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 meetings to EJ communities;
- A determination of whether there is a comparatively larger 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 impacted

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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)

communities by taking into consideration pollution exposure and its effects, as well as health and socioeconomic status, at the census-tract level. (OEHHA 2021, page 8).

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 21 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 group scores to produce a final score (Pollution Burden X Population Characteristics = CalEnviroScreen Score). (CalEPA 2017, page 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 2021, page 14). 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 4.21-1 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 4.21-1 COMPONENTS THAT FORM THE CALENVIROSCREEN 4.0 SCORE	
Pollution Burden	
Exposure Indicators	**Environmental Effects Indicators**
Children's lead risk from housing	Cleanup sites
Diesel particulate matter (PM) emissions	Groundwater threats
Drinking water contaminants	Hazardous waste
Ozone concentrations	Impaired water bodies
PM 2.5 concentrations	Solid waste sites and facilities
Pesticide use	
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 2021

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 three technical areas that could have project impacts that could combine with the indicators in

CalEnviroScreen: Air Quality, Hydrology and Water Quality, and Utilities and Service Systems.

The CalEnviroScreen indicators relevant to each of the three 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 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 2021, pages 8-10, 13, 20). Some limitations and items to note on CalEnviroScreen 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.
- Standard risk assessment protocols cannot always account for the full range of factors that may contribute to risk and vulnerability.
- The score presents a relative, rather than an absolute, evaluation of pollution burdens and vulnerabilities in California communities by providing a relative ranking of communities across the state of California.
- 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 environmental justice, 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.

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 to state and local elected officials, environmental justice organizations, local chambers of commerce, schools and school districts, labor unions and trade associations, community centers, daycare centers, park departments, and religious organizations within a six-mile radius of the proposed project.

In addition and upon request, the PAO provided hard copies of the notice for the San Jose Data Center Public Scoping Meeting to the Organización de Comunidad de Alviso. Furthermore, the PAO provided a PowerPoint presentation to the Organización de Comunidad de Alviso on the Small Power Plant Exemption (SPPE) process and how to have meaningful public engagement during an SPPE proceeding.

CEC staff docketed and mailed to the project mail list, including EJ organizations and similar interest groups, a Notice of Receipt of the San Jose Data Center SPPE Application on January 6, 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 the public 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 Vietnamese. In addition, CalEnviroScreen 4.0 data for two disadvantaged census tracts within a six-mile radius of the project site showed a linguistic isolation population characteristic with a percentile of 90 and above. The CalEnviroScreen data supports the U.S. Census fluency data, showing that the population in this immediate project area are linguistically isolated and translation is warranted. Public notices for the project in both English and Vietnamese were published in local newspapers on May 8 and May 9, 2020, respectively.

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 4.5 Cultural and Tribal Cultural Resources**.

As described in **Section 2, Introduction**, staff exceeded the noticing requirements under CEQA Guidelines Section 15087 by mailing the Notice of Availability of the Draft EIR to all owners and occupants not just contiguous to the project site but also to property owners within 1,000 feet of project site and 500 feet of project linears.

Environmental Justice Project Screening

Figure 4.21-1 shows 2020 census blocks in a six-mile radius of the project with a minority population greater than or equal to 50 percent (U.S. Census 2020). 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 4.21-2** and presented in **Figure 4.21-2**, staff concludes that the percentage of those living in the Santa Clara Unified School District (in a six-mile radius of the project site) and enrolled in the free or reduced-price meal program is larger than the percentage of those living in the reference geography (Santa Clara County) and enrolled in these programs. Thus, the population in this school district is considered an EJ population based on low income as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

TABLE 4.21-2 LOW INCOME DATA WITHIN THE PROJECT AREA

Santa Clara County School Districts in a Six-Mile Radius of the Project Site	Enrollment Used for Meals	Free or Reduced-Price Meals	
Berryessa Union Elementary	6,534	1,765	27.0%
Milpitas Unified	10,413	2,887	27.7%
Orchard Elementary	815	219	26.9%
Santa Clara Unified	**14,808**	**5,373**	**36.3%**
Sunnyvale Elementary	5,950	1,344	22.6%
Reference Geography			
Santa Clara County	253,625	82,218	32.4%

Alameda County School Districts in a Six-Mile Radius of the Project Site	Enrollment Used for Meals	Free or Reduced-Price Meals	
Fremont Unified	35,187	6,666	18.9%
Reference Geography			
Alameda County	222,573	90,247	40.5%

Note: **Bold** indicates school districts considered having an EJ population based on low income
Source: CDE 2021

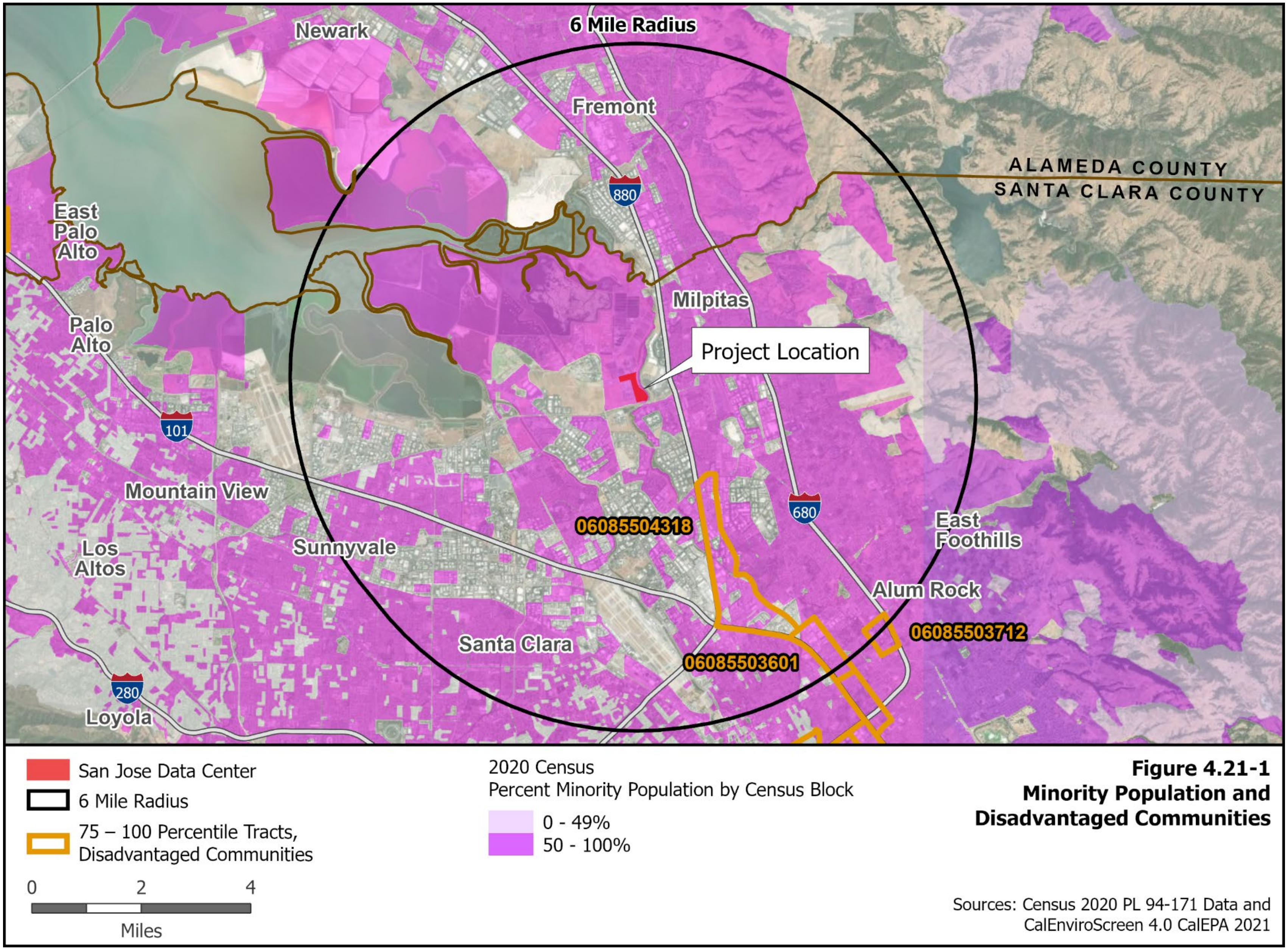
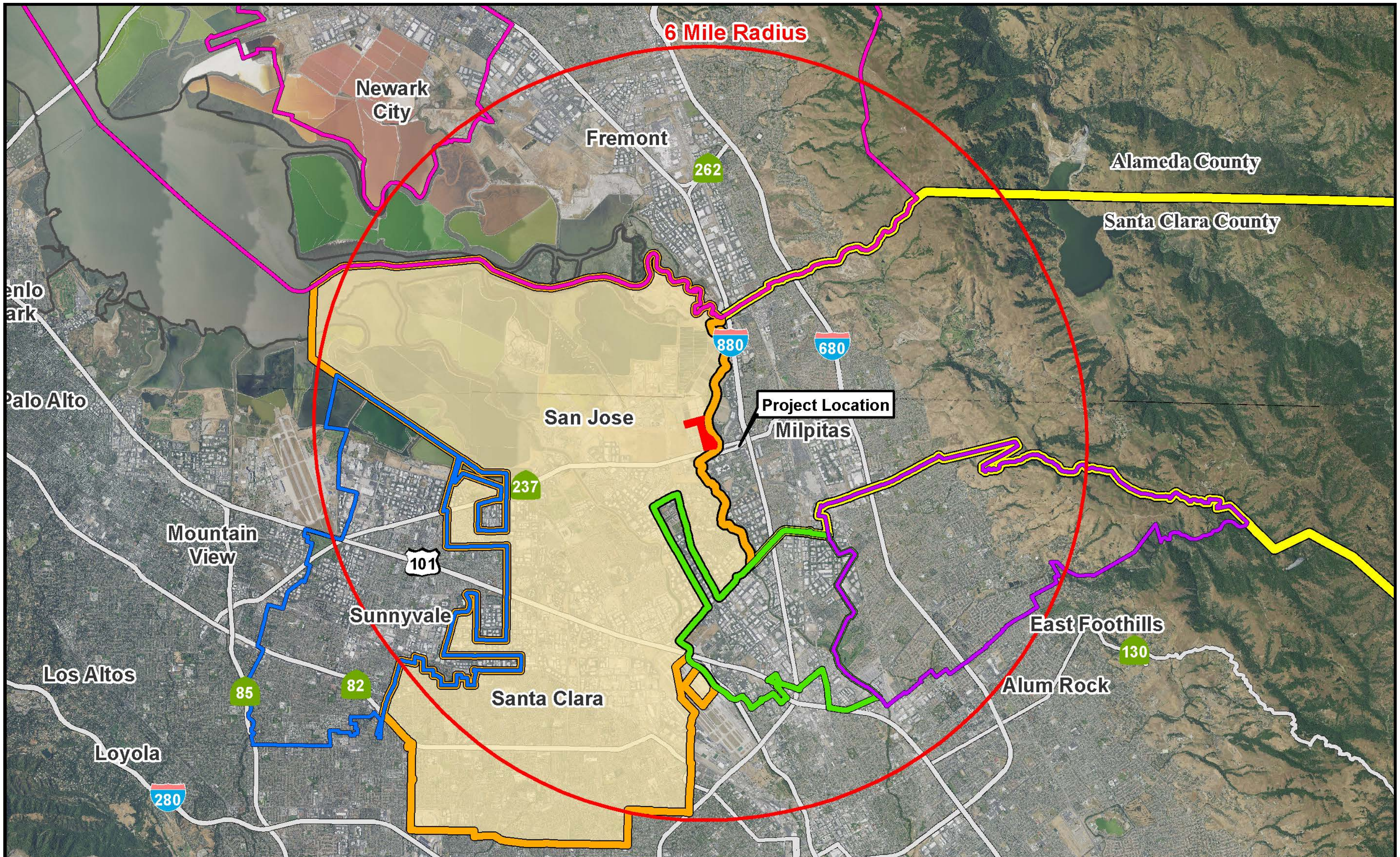


Figure 4.21-1
Minority Population and Disadvantaged Communities

Sources: Census 2020 PL 94-171 Data and CalEnviroScreen 4.0 CalEPA 2021



San Jose City Data Center

0 2 4
Miles

School District

- Berryessa Union Elementary
- Sunnyvale Elementary
- Fremont Unified
- Milpitas Unified
- Orchard Elementary
- Santa Clara Unified

Figure 4.21-2
Low Income Population

Note: Shaded areas have an EJ population based on low income
Sources: TIGER Data, CDE 2021

CalEnviroScreen- Disadvantaged Communities

CalEnviroScreen 4.0 was used to gather additional information about the population potentially impacted by the proposed project. The CalEnviroScreen indicators (see **Table 4.21-1**) are used to measure factors that affect the potential[3] for pollution impacts in communities. 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 could occur. **Table 4.21-3** presents the CalEnviroScreen overall scores for the three disadvantaged community within a six-mile radius of the project site. The location of each of these census tracts is shown on **Figure 4.21-1**.

TABLE 4.21-3 CALENVIROSCREEN SCORES FOR DISADVANTAGED COMMUNITIES

Census Tract No.	Total Population	CES 4.0 Percentile	Pollution Burden Percentile	Population Characteristics Percentile
06085503712	4,484	75.77	40.05	94.52
06085504318	6,095	80.06	88.82	63.28
06085503601	3,383	85.36	84.12	76.94

Note: Disadvantaged communities by census tract in the project's six-mile radius. Shaded row indicates census tract where the project is located. Source: Cal/EPA 2021

Table 4.21-4 presents the CalEnviroScreen percentiles for the indicators that make up the pollution burden percentile within six-mile radius of the project site. Where percentiles for the 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 no census tracts where the pollution burden percentile is 90 or above and there are three census tracts where individual pollution burden indicators are in the 90 or above percentile. **Table 4.21-5** presents the percentiles for the indicators that make up the population characteristics.

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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 mitigation pathways must exist (through ingestion, inhalation, dermal contact, etc.) and contact to a certain amount- not just any amount – mush 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 screen tool, it is not intended to be used as a health or ecological risk assessment for a specific area.

TABLE 4.21-4 CALENVIROSCREEN INDICATOR PERCENTILES FOR POLLUTION BURDEN FOR DISADVANTAGED COMMUNITIES

Census Tract No.	Percentiles													
	Pollution Burden	**Ozone**	**PM2.5**	**Diesel PM**	**Drinking Water**	**Lead**	**Pesticides**	**Toxic Release**	**Traffic**	**Cleanup Sites**	**Groundwater Threats**	**Hazardous Waste**	**Impaired Water Bodies**	**Solid Waste**
06085503712	40.05	20.85	34.18	87.99	22.74	58.49	0.00	31.16	**95.96**	0.00	43.85	88.48	12.45	0.00
06085504318	88.82	20.85	33.71	**90.49**	22.74	52.73	4.97	39.48	**94.31**	**99.74**	**96.73**	**99.85**	33.16	**99.77**
06085503601	84.12	20.85	35.76	**91.50**	22.74	85.20	0.00	33.02	**91.00**	81.02	62.49	**91.36**	33.16	84.74

TABLE 4.21-5 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**
06085503712	**94.52**	88.43	**93.65**	71.62	83.23	**97.48**	64.90	56.19	**95.67**
06085504318	63.28	36.05	71.79	28.12	78.63	**95.72**	59.52	78.97	46.02
06085503601	76.94	73.54	77.05	53.39	79.42	78.45	78.45	21.11	63.26

There is one census tract where the population characteristics burden percentile is 90 or above and two census tracts where individual population characteristic indicators are in the 90 or above percentile.

4.21.2 Environmental Impacts

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 (Mandatory Findings of Significance) 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 three technical areas that could have project impacts that could combine with the indicators in CalEnviroScreen: Air Quality, 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 and glare that would adversely affect day or nighttime views in the area.

The project is in an urbanized area. The project conforms to the applicable city zoning and other regulations governing scenic quality.

Staff viewed aerial, surface and street imagery, topographic and other maps in addition to the EJ figures in the EJ section EJ figures, and concludes the nearest EJ population would have no to low visibility of the project due to the existence of aboveground landscape components (buildings, structures, earthworks, trees, etc.) obstructing or obscuring the public view of the project from the identified population(s).

5 Public Health concern discussed under Air Quality

The project design includes directional and shielded light fixtures to keep lighting onsite and away from riparian areas. The project design includes installing LED lighting throughout the project site. Project components would have no to low reflectivity offsite.

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. **Table 4.21-4** and **Table 4.21-5** 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 NO2 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.

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. Since toxic air contaminants (TACs) have no AAQS that specify health-based levels considered safe for everyone, a health risk assessment (HRA) is used to determine if people might be exposed to those types of air pollutants at unhealthy levels.

Staff identified the potential air quality (i.e. ozone and PM2.5) and public health impacts (i.e. cancer and non-cancer health effects) that could affect the EJ population represented in **Figures 4.21-1** and **4.21-2**. These potential air quality impact and public health risks were evaluated quantitatively based on the most sensitive population, which includes the EJ population, by conducting an air quality impact analysis (AQIA) and a HRA. Please refer to **Section 4.3 Air Quality** for details. Staff also examined individual contributions of indicators in CalEnviroScreen that are relevant to air quality (see **Table 4.21-1**).

In **Section 4.3 Air Quality**, staff concluded that construction, operation (including readiness testing and maintenance), and any emergency operation as defined in the **Air Quality** section of this EIR are not likely to cause significant adverse 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. Therefore, no mitigation is required for the project’s operational emissions. Likewise, the project would not cause disproportionate air quality or public health impacts on sensitive populations, such as the EJ population represented in **Figures 4.21-1** and **4.21-2**.

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 is not 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. The NOx emissions of the standby generators during operation (including readiness testing and maintenance) would be required to be fully offset through the permitting process with the Bay Area Air Quality Management District (BAAQMD). Please see more detailed discussion in **Section 4.3 Air Quality**.

For CalEnviroScreen, the air monitoring data used in this indicator have been updated to reflect ozone measurements for the years 2017 to 2019. CalEnviroScreen 4.0 uses the average daily maximum 8-hour ozone concentration (ppm). 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 shown in **Table 4.21-4.** This means ozone levels in the three census tracts are relatively low, with percentiles around 20. Another way to look at the data is that approximately 80 percent of all California census tracts have higher ozone levels than these census tracts near the project. For ozone, 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 the regional air quality as it relates to ozone. The project would be required to comply with air quality emission rate significance thresholds 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 during construction. The project's impacts would not be expected to cause exceedance of ambient air quality standards during operation (including readiness testing and maintenance). The facility would emit less than 10 tons per year (tpy) of NOx or VOCs, and therefore the applicant would not be required to provide any offsets. However, NOx emissions would be fully offset through the permitting process by the BAAQMD through the Small Facility Banking Account. Therefore, the project would not contribute significantly to regional ozone concentrations, relative to baseline conditions. The project's air quality impacts, as it related to ozone and ozone precursors would be less than significant for the census tracts of concern and the general population.

Staff concludes that the project would not expose sensitive receptors to substantial ozone precursor concentrations. 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, as NOx emissions of the standby generators would be fully offset, the project would not result in a cumulatively considerable net increase of secondary pollutants such as ozone in the air basin.

PM2.5 Impacts

Particulate matter (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 refers to particles that have a diameter less than or equal to 2.5 micrometers. PM2.5 is known to cause numerous health effects, which 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 (weighted average of measured monitor concentrations and satellite observations, µg/m3), averaged over three years (2015-2017). 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 4.21-4**. While the three census tracts are similar, with percentiles being 33.71, 34.18, ad 35.76 for census tracts 6085504318, 6085503712, and 6085503601, respectively, the highest percentile is from census tract 6085503601.

Census tract 6085503601 was at the 35.76 percentile in the PM2.5 category (see **Table 4.21-4**). This indicates that particulate matter concentrations in this census tract are higher than 35.76 percent of tracts statewide. This indicates that these communities are exposed to below average PM2.5 concentrations compared to the rest of the state.

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 operations of the standby generators. The project would use best management practices (BMPs) during construction, which would reduce particulate matter during construction. The project is also expected to be below ambient air quality standards during readiness testing and maintenance and grid support operations. The project would therefore be expected to not contribute significantly to regional PM2.5 concentrations, relative to baseline conditions. The project's air quality impacts, as it related to PM2.5 would be less than significant for the census tract of concern and the general population.

Staff concludes that the project would not expose sensitive receptors to substantial PM2.5 concentrations.

NO_2 Impacts

As stated in **Section 4.3, Air Quality**, staff did 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 SJDC's readiness testing and maintenance and grid support operations would not cause adverse NO_2 impacts to the EJ population. Staff concludes that the project would not expose sensitive receptors to substantial criteria pollutant concentrations.

Diesel PM

This indicator represents how much diesel PM is emitted into the air within and near the census tract. The data are from 2016 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.

Table 4.21-4 shows that among these three census tracts, two are higher than the 90th percentile. The highest percentiles are 91.5 and 90.49 (in census tracts 06085503601 and 06085504318, respectively), meaning these two are higher than 91.5 and 90.49 percent of the census tracts in California. However, according to the results of the health risk assessment conducted for this project in **Section 4.3 Air Quality**, impacts associated with diesel PM from the proposed project construction and operation activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to the diesel PM levels in the disadvantaged communities.

Pesticide Use

Specific pesticides included in the Pesticide Use category were narrowed from the list of all registered pesticides in use in California to focus on a subset of 132 active pesticide ingredients that are filtered for hazard and volatility for the years 2017-2019 collected by the California Department of Pesticide Regulation. Only pesticides used on agricultural commodities are included in the indicator.

Census tracts 06085503712 and 06085503601 were at the 0 percentile in the Pesticide Use category, and census tract 06085504318 was at the 4.97 percentile in the Pesticide Use category (see **Table 4.12-4**). This indicates that pesticide use in these census tracts are below the statewide average in terms of pesticide use. This indicates that these communities are not exposed to high pesticide concentrations as compared to the rest of the state.

Toxic Releases from Facilities

This indicator represents modeled toxicity-weighted concentrations of chemical releases to air from facility emissions and off-site incineration in and near the 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 2017-2019.

Table 4.21-4 shows three census tracts are fairly similar, with the percentiles being 31.16, 39.48, and 33.02 for census tracts 6085503712, 6085504318, and 6085503601, respectively, the highest percentile is from census tract 6085504318. This indicates that toxic release from facilities threats in this census tract (6085504318) is higher than 39.48 percent of tracts statewide. This indicates that these communities are lower than the state average for exposure to toxic releases.

According to the results of the health risk assessment conducted for the project in **Section 4.3 Air Quality**, impacts associated with toxic releases from construction and operation activities (diesel-fueled equipment) would be less than significant. The project 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 Impacts

This indicator represents the sum of traffic volumes adjusted by road segment length. It is calculated as the sum of traffic volumes adjusted by road segment length (vehicle-kilometers per hour) divided by total road length (kilometers) within 150 meters of the census tract. It is not a measure of level of service on roadways. The data are from 2017.

Table 4.21-4 shows all three census tracts are higher than the 90th percentile. The highest one is 95.96 (in census tract 06085503712), meaning it is higher than 95.96 percent of the census tracts in California. Traffic impacts is related to the diesel PM emitted from diesel-fueled vehicles. Census tract 06085504318 and 06085503601 were at the 94.31 and 91 percentile, respectively. However, according to the results of the health risk assessment conducted for the project in **Section 4.3 Air Quality**, impacts associated with diesel PM from the proposed project construction and operation activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to the diesel PM-related traffic density in the disadvantaged communities.

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 would result in a significant contribution to the traffic density on any roadway in the vicinity of the project site. 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

This indicator is a representation of an asthma rate. It measures the number of emergency department (ED) visits for asthma per 10,000 people over the years 2015 to 2017. The information was collected by the California Office of Statewide Health Planning and Development (OSHPD).

Table 4.21-5 shows census tract 06085503712 was at the 88.43 percentile in the Asthma category. This indicates the number of ED visits for asthma per 10,000 people over the years 2015 to 2017 are higher than 88.43 percent of tracts statewide. Census tract 06085503601 was slightly lower, at the 73.54 percentile. This indicates that these two communities have above average numbers of ED visits due to asthma compared to the rest of the state. On the contrary, census tract 06085504318 was at the 36.05 percentile, lower than the state average for asthma ED visits.

According to the results of the health risk assessment conducted for the project in **Section 4.3 Air Quality**, impacts associated with emissions from construction and operation activities would be less than significant and would not have a significant cumulative contribution to asthma ED visits. The project's emissions would not have a significant cumulative contribution to asthma ED 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 2009 to 2015. The information was collected by the California Department of Public Health (CDPH).

Among these three census tracts, Census Tract 06085503712 has the highest potential relative burden. The low birth weight percentile for this census tract is 93.65, meaning the percent low birth weight is higher than 93.65 percent of tracts statewide. Census tract 06085504318 and 06085503601 were slightly lower, at the 71.79 and 77.05 percentile, respectively. This indicates that these two communities also had higher than the state average of low birth weight infants.

Staff's health risk assessment for the project was based on a highly conservative health-protective methodology that accounts for impacts on the most sensitive individuals in a given population. According to the results of the assessment, the risks at the nearest sensitive receptors (i.e. Maximally Exposed Sensitive Receptor [MESR] and Maximally Exposed Individual Resident [MEIR]) are below health-based thresholds. Therefore, the toxic emissions from the project would not cause significant health effects for the low birth weight infants in these disadvantaged communities or have a significant cumulative contribution to these disadvantaged communities.

<u>Cardiovascular Disease</u>

This indicator represents the rate of heart attacks. It measures the number of emergency department (ED) visits for acute myocardial infarction (AMI) (or heart attack) per 10,000 people over the years 2015 to 2017.

Table 4.21-5 shows census tract 06085503712 was at the 71.62 percentile in the Cardiovascular Disease category. This indicates the number of emergency department visits for AMI per 10,000 people over the years 2015 to 2017 is higher than 71.62 percent of tracts statewide. This indicates that this community is above the average number of emergency department visits for AMI compared to the rest of the state.

According to the results of the health risk assessment conducted for the project in **Section 4.3 Air Quality**, impacts associated with emissions from construction and operation activities 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 did not identify any Native American environmental justice 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 two-emergency administrative diesel-fired generators is the hazardous material that the project site would have in greatest quantity. The total quantity of diesel fuel would be stored in two separate double-walled fuel tanks (one for each generator) with proper spill controls. The project would use significant quantities of natural gas serving the natural gas-fired generators, but it would not be stored on site. The risk of an accidental release of natural gas on site would be reduced through adherence to applicable codes and use of effective safety management practices. In the event of an earthquake or accident, the emergency gas shutoff valves installed on each natural gas supply line in the SJDC gas metering yard would shut off the supply of natural gas to the site. In addition, each natural gas-fired generator would include a natural gas leak detector, which in the event natural gas is detected, an isolation valve would automatically close on the natural gas connection to the generators. Therefore, the likelihood of a spill or release of sufficient quantity to impact the surrounding community and EJ population would be very unlikely and is considered less than significant.

Hydrology and Water Quality

Less Than Significant Impact. A disproportionate hydrologic or water quality impact on an EJ population could occur if 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 six-mile radius of the project (see **Figure 4.21-1**) are presented in **Table 4.12-4** 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 4.0 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 4.21-1** shows, there are no disadvantaged community census tracts within 1,000 meters of the project. Therefore, no further analysis is needed.

Land Use and Planning

Less Than Significant Impact. The project is in an area with the General Plan land use designation of LI, Light Industrial, which is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. Typical uses include warehousing, wholesaling, and light manufacturing. The proposed project is consistent with the description of uses allowed in areas with this land use designation, and it would not involve uses that could cause unmitigated hazardous or nuisance impacts. (**Sections 4.3 Air Quality**, **4.9 Hazards and Hazardous Materials**, and **4.17 Transportation** of this document evaluate the project's potential impacts relating to nuisance effects and hazards.)

The project site is in the LI, Light Industrial zoning district; allowed uses for properties in the LI zoning district specify that a data center requires a Special Use Permit, which may only be issued if the city of San Jose determines that the project plans meet its permit requirements. Issuance of a Special Use Permit for the project is contingent on several findings, including the city determining that the proposed use will not be detrimental to the public health, safety, or general welfare. (See **Section 4.11 Land Use and Planning** for additional information on the requirements for a Special Use Permit.) 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, including potential disproportionate impacts on an EJ population.

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. The closest sensitive receptor is a residence located about 1,600 feet across Highway 237 to the south of the project site, which is shielded from the project by several large office buildings.

Construction activities would increase existing noise levels at the adjacent land uses, but they would be temporary and intermittent. In addition, demolition and construction would not occur on Sundays and holidays, in compliance with the San Jose City Code, Section 20.50. While construction of the proposed project would temporarily increase noise levels in the immediate neighboring areas of the project site, since there are no noise-sensitive land uses in the immediate vicinity of the project (the closest residence is about 1,600 feet away), construction activities would result in a less than significant noise impact for the EJ community.

Sources of operational noise for the project would include the backup generators, rooftop mechanical equipment including HVAC and other equipment necessary for project operation. The city's General Plan Policy EC-1.6 requires existing and new industrial development to reduce the effects of operational noise on adjacent properties through compliance with noise standards in the city's Municipal Code (Sections 20.40.600 and 20.50.300). Since the project is not adjacent to, or in close proximity to a residential land use, noise reduction measures, such as mechanical equipment screening, would not be required and operation of the project would have a less than significant impact from mechanical equipment noise for all the area's population, including the EJ population.

Population and Housing

Less Than Significant Impact. Because the study area used in this analysis for impacts related to population influx and housing supply includes Fremont, Milpitas, San Jose, Santa Clara, Sunnyvale, and Santa Clara County, staff considered the project's population and housing impacts on the EJ population living in these geographic areas.

The potential for population and housing impacts is predominantly driven by the temporary influx of 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. Construction of the project may require temporary closure of pedestrian facilities. In the event of any type of closure, clear signage (closure and detour signs) would be provided to ensure vehicles, pedestrians and bicyclists could reach their intended destinations safely. Construction and operation of the project would contribute to the fulfillment of pedestrian plans by extending an existing Class I bike trail along the eastern side of Zanker Road (see **Figure 3-4**) and the implementation of traffic calming measures (raised median island, signalized intersection) thus, improving the surrounding alternative transportation infrastructure. As concluded in **Section 4.17 Transportation**, all transportation impacts, including impacts to alternative modes of 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 Service Systems

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 six-mile radius of the project (see **Figure 4.21-1**) are presented in **Table 4.21-4** 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's inversely proportional with distance from the census tract. For stationery stressors, the weighting factor diminishes to zero for distances equal to or larger than 1,000 meters (0.6 mile). As **Figure 4.21-1** shows, there are no census tracts within 1,000 meters of the proposed project site. Therefore, no further analysis is needed.

List of Preparers and Contributors

The following are a list of preparers and contributors to **Section 4.21 Environmental Justice**:

Ellen LeFevre	General Environmental Justice information, CalEnviroScreen information, Environmental Justice screening, public outreach, CalEnviroScreen project screening, and Population and Housing impact analysis.
Mark Hamblin	Aesthetics impact analysis.
Hui-An (Ann) Chu, Brewster Birdsall	Air Quality (public health) impact analysis.
Gabriel Roark, Melissa Mourkas, Cameron Travis	Cultural and Tribal Cultural Resources impact analysis.
Andrea Koch	Land Use and Planning impact analysis.
Lisa Worrall, Ellen LeFevre	Mandatory Findings of Significance impact analysis.
Abdel-Karim Abulaban	Hydrology and Water Quality, Noise, and Utilities and Service Systems impact analysis.
Ashley Gutierrez	Transportation impact analysis.

4.21.3 Mitigation Measures

None.

4.21.4 References

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Section 5

Alternatives

5 Alternatives

5.1 Introduction

The San Jose Data Center (SJDC or proposed project) would include natural gas backup generators to provide reliable operation of the data center in the event of loss of electrical service from the local electric utility, and for load shedding, demand response, and behind-the-meter resource adequacy (RA) ancillary services. Alternatives considered include the use of fuel cells (solid oxide and polymer electrolyte membrane), backup battery systems (standalone and tandem), and the no project alternative.

5.2 CEQA Requirements

The California Environmental Quality Act (CEQA) Guidelines require that an EIR consider and discuss alternatives to the proposed project (Cal. Code Regs., tit. 14, § 15000 et seq.). Section 15126.6 of the CEQA Guidelines provides that the alternatives analysis must:

- describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project;
- evaluate the comparative merits of the alternatives;
- focus on alternatives that would avoid or substantially lessen any significant effects of the project, even if these alternatives would impede to some degree attainment of the project objectives, or would be more costly; and
- describe the rationale for selecting alternatives to be discussed and identify alternatives that were initially considered but then rejected from further evaluation.

CEQA requires that an EIR "consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation" (Cal. Code Regs., tit. 14, § 15126.6, subd. (a)). Alternatives may be eliminated from detailed consideration by the lead agency if they fail to meet most of the basic project objectives, are infeasible, or could not avoid any significant environmental effects (Cal. Code Regs., tit. 14, § 15126.6, subd. (c)). The range of potentially feasible alternatives selected for analysis is governed by a "rule of reason," requiring evaluation of only those alternatives "necessary to permit a reasoned choice" (Cal. Code Regs., tit. 14, § 15126.6, subd. (f)).

An EIR is not required to consider alternatives that are infeasible (Cal. Code Regs., tit. 14, § 15126.6, subd. (a)). In addressing feasibility of alternatives, factors that may be taken into account are site suitability; economic viability; availability of infrastructure; general plan consistency; other plans or regulatory limitations; jurisdictional boundaries; and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (Cal. Code Regs., tit. 14, § 15126.6, subd. (f)(1)). An EIR "need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative" (Cal. Code Regs., tit. 14, § 15126.6, subd. (f)(3)).

The lead agency is also required to evaluate the "no project" alternative along with its impact. Analyzing a no project alternative allows decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project (Cal. Code Regs., tit. 14, § 15126.6, subd. (e)(1)). "The 'no project' analysis shall discuss the existing conditions at the time the notice of preparation is published…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives" (Cal. Code Regs., tit. 14, § 15126.6, subd. (e)(2)).

5.3 Project Objectives and Alternatives Screening

The ideal process to select alternatives to include in the analysis begins with the establishment of project objectives. Section 15124 of the CEQA Guidelines addresses the requirement for an EIR to contain a statement of objectives, as follows:

> *A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project and may discuss the project benefits.*

The applicant's project objectives are as follows:

- Meet the continuing need for a data center to support the San Jose region's growing business and work force population as well as its growth as a center of innovation consistent with San Jose's planned land use vision.
- Construct and operate a data center that maximizes the use of the project site to house computer servers, supporting equipment, and associated administrative office uses in an environmentally controlled structure with redundant subsystems (cooling, power, network links, storage, fire suppression, etc.).
- Locate the data center on property long-planned for industrial uses that is in proximity to existing circulation and utility infrastructure, a reliable large power source, and emergency response access, and on a site capable of being protected, to the maximum extent feasible, from security threats, natural disasters, and similar events.
- Design the proposed data center such that it can be provided with operational electric power via an electric 115/230-kilovolt (kV) substation, and efficiently extend, connect to or otherwise install other utility infrastructure to adequately serve the project, including water, storm drainage, sanitary sewer, electric, natural gas, and telecommunications, as well as new roadway and bike trail improvements.
- Ensure the data center achieves reduced access latency (defined as the time it takes to access data across a network).
- Incorporate reliable, commercially available, and feasible backup generators to ensure uninterrupted power during utility outages, interruptions, or failures, with back-up

generation deployed in redundant configurations to achieve a 99.999 percent reliability factor.

- Incorporate use of renewable fuels as primary fuel for backup generators.
- Incorporate, as feasible, environmentally sustainable features into the project, such as birdfriendly building design components and the creation of an environmental buffer zone along Coyote Creek.

5.4 Reliability and Risk Factors

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. The selected backup electric generation technology must be extremely reliable in the case of an emergency loss of electricity from the utility. Data center customers demand the most reliable data storage service available. And data center insurers are willing to invest only in proven technologies with extremely low probability of operational failure.

Any alternative backup generation technology would be measured against proven available technologies, such as the current technology proposed. Should the reliability of that technology not match that of the proposed technology, it would not be considered a viable alternative.

Risk factors that affect the reliable operation of backup generators include the following: failure to start, failure to run due to various technical issues, and failure to run due to lack of fuel supply (NREL 2021). Any alternative technology must have proven operational hours, a reliable source of fuel supply, and redundancy capabilities. Sufficiently mitigating these risks would ensure that data center operation is not interrupted during a power utility failure.

5.5 Environmental Impacts of the Proposed Project

This EIR evaluates the potential environmental impacts of the proposed project. The proposed project originally included diesel backup generators to provide electrical power to support the information technology (IT) load during utility outages or certain onsite electrical equipment interruption or failure. However, to reduce environmental impacts related to air quality and greenhouse gas emissions, the applicant changed to renewable natural gas backup generators (natural gas generators) to provide electrical power to support the data center uses during utility outages, certain onsite electrical equipment interruption or failure, and for load shedding, demand response and behind-the-meter resource adequacy (RA) ancillary services. With these generators and staff recommended mitigation measures, no significant environmental impacts have been identified if the project is ultimately approved by the City of San Jose, and constructed and operated. The recommended mitigation measures are summarized as follows:

- **Air Quality** – With the incorporation of the local air district's best management practices to control fugitive dust and exhaust control measures, as required in **AQ-1**, impacts from fugitive dust and construction equipment exhaust would not cause a cumulatively considerable net increase of any criteria pollutant, and impacts would be reduced to a less than significant level.

- **Biological Resources** – The project could adversely affect: special status plant and wildlife species, riparian habitat or other sensitive natural communities, state or federally protected wetlands, and could also conflict with City of San Jose (City) policies and its Municipal Code regarding tree removal and protection of Heritage Trees. Staff has proposed **BIO-1** through **BIO-20** to reduce these impacts to a less than significant level.
- **Cultural and Tribal Cultural Resources** – The project would not impact any known resources that could meet CEQA's criteria for historical resources, unique archaeological resources, or tribal cultural resources. However, previous cultural resources studies in the project area indicate that buried archaeological or ethnographic resources could be encountered during ground disturbing activities at the site. Staff recommends **CUL-1** through **CUL-6**, to address the discovery of previously unknown buried cultural resources, including human remains. In addition, **CUL-1** proposes to require monitoring by both a qualified archaeological resources specialist and a Native American monitor, and implement a Workforce Environmental Awareness Program. With implementation of these mitigation measures, potential impacts on cultural and tribal cultural resources would be reduced to a less than significant level.
- **Geology and Soils** – Earth moving during project construction has the potential to disturb paleontological resources. Staff recommends **GEO-1** to train construction personnel and guide recovery and processing of any significant paleontological finds; implementation of this measure would reduce the impact to a less than significant level.
- **Greenhouse Gas Emissions** – With implementation of the efficiency measures to be incorporated into the project and implementation of **GHG-1** and **GHG-2**, project-related GHG emissions would not conflict with any applicable plans and policies adopted to reduce GHG emissions and would comply with all regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Staff concludes that with implementation of these mititgation measures, impacts to the the environment due to greenhouse gas emissions, would be reduced to a less than significant level.
- **Hazards and Hazardous Materials** – Ground disturbing activities associated with the removal of underground utilities, and construction of the project would have the potential to encounter the identified contaminated soil. Staff proposes mitigation measures requiring the preparation of a SMP to establish proper procedures to be taken when contaminated soil is found and how to dispose of the contaminated soil properly (**HAZ-1**) and a Health and Safety Plan to establish provisions for personal protection and procedures if contaminated soil is encountered (**HAZ-2**). Staff concludes that with implementation of **HAZ-1** and **HAZ-2**, impacts to the public or

the environment due to contaminated soils, would be reduced to a less than significant level.

- **Noise** – Construction activities would have the potential to create significant noise impacts that could affect nearby businesses. With the implementation of **NOI-1**, which establishes a noise complaint phone line and notifcation of business that could be impacted by the loudest construction activities, impacts of project construction would be reduced to a less than significant level.
- **Transportation** – Project-generated vehicle miles traveled (VMT) per employee would exceed the City's thresholds for industrial employment. Staff recommends **TRA-1** requiring the preparation and implementation of Transportation Demand Management plan as well as surrounding alternative transportation improvements to reduce the project generated VMT to fall below the city's industrial VMT threshold, thereby reducing the impact to a less than significant level.

5.6 Alternative Project Site

Staff evaluated whether an alternative site location should be identified as a potentially feasible alternative to the proposed project to avoid or substantially lessen significant effects. Impacts from the SJDC project would be mitigated to less than significant, as described above in "5.5 Environmental Impacts of the Proposed Project". The SJDC project's impacts are the type that would not be avoided or lessened by proposing the project at another location as some of the impacts are an inherent part of the project (e.g., air quality, GHG, construction noise) or would be similar at another location in the San Jose region (e.g., cultural and tribal resources, geology and soils [paleontology]). Generally, a site with consistent zoning and adjacent uses is preferred. Availability to connect to two natural gas lines, sanitary sewer, potable and reclaimed water, storm water, and transmission lines and a substation with a high level of reliability such as the Los Esteros Substation (see **Appendix B** of this EIR) is required for the project to be feasible. Having already acquired the project site, to then acquire an alternative site might be costly and infeasible if a suitable site is not available for sale or lease within a reasonable timeframe. The SJDC project is proposed on property zoned for industrial uses and immediately surrounded by compatible uses. For these reasons further consideration of an alternative project site is not necessary.

5.7 Alternatives Considered

Staff concluded there would be no significant impacts from the project with incorporation of mitigation, but staff considered key alternatives for backup generation to provide a more comprehensive analysis of emerging technologies that stakeholders have raised. The following discussion provides staff's analysis and reasoning for why these alternatives are not viable compared to the proposed project or do not avoid the proposed project's impacts.

5.7.1 Alternatives Considered and Not Evaluated Further

This subsection discusses alternatives initially considered but ultimately not evaluated further. The technologies proposed in these alternatives were thoroughly considered; however, they were determined to not be feasible alternatives that would meet the SJDC project's reliability criterion. Furthermore, they were not evaluated from an environmental impact perspective or compared with the proposed SJDC project. Staff evaluated two technology alternatives: fuel cells and standalone battery storage, as potential alternatives to the natural gas generator technology proposed by the applicant. It is assumed that the project site location would remain the same under these alternatives.

The alternatives described in the subsections that follow could not achieve the level of reliability required to ensure an uninterrupted power supply. See the subsection above, "5.4 Reliability and Risk Factors," for further discussion and analysis.

5.7.1.1 Fuel Cell Alternative

Fuel cells convert chemical energy into electrical energy. There are many types of fuel cells, each of which is classified primarily by the kind of electrolyte they employ. Fuel cells vary according to the kinds of electro-chemical reactions that take place in the cells, the kinds of catalysts required, the operating temperature range, the fuel requirements, and other factors affecting the applications suitable for the fuel cells. There are several types of fuel cells. The most promising for powering data centers are solid oxide fuel cells (SOFCs) and polymer electrolyte membrane, or PEM fuel cell technology (Microsoft 2021).

Solid Oxide Fuel Cells. SOFCs are electrochemical devices that convert the chemical energy of a fuel and oxidant directly into electrical energy. They operate at high temperatures, as high as 2,100 degrees Fahrenheit. Operating at high temperatures enables the SOFCs to use a variety of fuels to produce hydrogen but also carbon oxides. SOFCs can use natural gas, biogas and gases made from coal as fuel (U.S. DOE 2020a), but more commonly use natural gas. SOFCs are resilient and not susceptible to carbon monoxide (CO) poisoning. CO is a product of the chemical reaction created by the fuel and steam molecules. CO poisoning affects the voltage output of other types of fuel cells such as PEM fuel cells. Due to their resiliency against CO poisoning and because they operate at extremely high temperatures, SOFCs can reform fuel internally. This reduces the cost associated with adding a reformer to the system. However, because it takes time to reach critical operating temperatures, SOFCs have slow startup times and can require up to 60 minutes to start (GenCell 2021).

SOFCs are typically configured and more suitable to serve as a prime base load power. To date, eBay's data center in Utah is using 30, 200 kilowatt (kW) SOFCs to provide continuous base load power to the IT load, 6 MW, 24 hours/day, all-year-round, with the electric grid as their backup power supply. Additionally, some data centers (i.e., Apple and Equinix) have supplemented their base load power demand (IT and cooling systems) with SOFCs but they rely on the electric grid to support other loads, while retaining traditional Uninterruptible Power Supply (UPS) and generators for emergency power

(Data Center 2021). However, SOFCs providing power for 100 percent base load demand (i.e., IT and cooling systems) are not yet industry standard for large-scale data centers.

PEM Fuel Cell Technology. A suitable fuel cell technology for backup energy generation is PEM fuel cell technology, also called Proton Exchange Membrane fuel cell technology (U.S. DOE 2020a). PEM fuel cells are available for low-power applications that require intermittent backup power. They are typically used in small applications, such as mobile services or small stationary applications as backup generators for communication towers. Their power capacity ranges between 10 and 125 kW. However, the technology has expanded to data center applications with fuel cell capacity up to 1.0-megawatt (MW) delivered in the size of a 40-foot International Organization for Standardization (ISO) container (GenSureHP 2021). For a 100 MW system the footprint required would be 32,000 square feet or approximately 0.73 acre.

While other chemicals can be used by PEM fuel cells, the preferred fuel is pure hydrogen to deliver high power and quick start up times that a data center requires in a backup generator. For a project to use PEM fuel cells it would need adequate space for onsite hydrogen storage tanks and related infrastructure. There would also be a need for appropriate technical expertise in operating a compressed cryogenic hydrogen system.

Potential Feasibility Issues

Solid Oxide Fuel Cells. SOFCs are slow to startup. Data centers must have a constant electricity supply, with even a momentary outage risking the loss of data; they thus require fast startup for their backup power generators. SOFCs also have a slow response to electricity demand (GenCell 2021). This can pose a problem for data centers, as their IT and cooling load demands constantly fluctuate, in addition to changes in environmental conditions (ambient air temperature and humidity). The internal temperature of the data center buildings must remain steady for the IT servers' optimal performance. The rapid changes in electricity demand could outpace the SOFCs' ability to provide the needed services offered by the data center.

Durability of the fuel cells is also an important factor that cannot be ignored. The high operating temperatures place stringent durability requirements on fuel cell materials. They can be made with durable materials; however, they are costly.

SOFCs would utilize the underground natural gas pipeline system. At least one pipeline connection would be needed to supply the project with natural gas. A second, independent pipeline connection may be needed for redundancy. The project site can interconnect with two independent gas distribution lines (see **Section 3.0 Project Description** for more information).

A crucial hurdle facing potential big users of SOFCs, such as data centers, is the lack of sufficient supply. According to the Clean Energy Institute there is currently a limited production of SOFC components to meet the needs of major users (ZDNet 2021).

PEM Fuel Cell Technology. PEM fuel cells operate at low temperatures and require fuels that are carbon free rich in hydrogen content, preferably pure hydrogen, for maximum voltage output. CO poisoning is an important issue for PEM. It cannot tolerate great amounts of CO (Fuel Cell 2021).

Onsite fuel storage, the current pipeline infrastructure, and onsite generation of hydrogen would challenge the project's ability to provide fuel to the fuel cell.

Fuel Supply

Onsite Storage. The simplest way to store large volumes of hydrogen would be to compress it. Hydrogen can be compressed to 240 times the gas volumes at atmospheric pressure. The gauge pressure of hydrogen stored as a high-pressure gas is 3600 pounds per square inch (psig) (Hydrogen Properties 2021). Assuming a PEM fuel cell consumes 0.8 normal cubic meter (Nm^3) of fuel per kilowatt-hour produced (Air Liquide 2021), the fuel consumption rate for a 1.0-MW fuel cell would be 800 normal cubic meters per hour. SJDC would need fuel for up to 509 hours of fuel cell operation. Therefore, the project site would need approximately 60,000 cubic feet of compressed hydrogen[1], at 3600 psig, stored onsite per 1.0-MW fuel cell. Furthermore, the site would need approximately 6 million cubic feet or over 138 acre-feet of compressed hydrogen for 100 MW of fuel cells. The project would require a storage system that includes at least several pressure vessels to store such a large amount of compressed hydrogen. The storage space required for compressed hydrogen would not be feasible on the project site as it is estimated as 138 acre-feet (e.g., 138 acres for 1 foot in depth, 69 acres for 2 feet in depth, etc.).

Alternatively, hydrogen could be stored in liquid form to reduce the storage footprint. Hydrogen can be liquified to 848 times less volume than gas at atmospheric conditions (Hydrogen Properties 2021). Liquefying hydrogen would reduce the volume and storage space. The project would need approximately 1.7 million cubic feet or 39 acre-feet of liquid hydrogen gas (LHG) for 100 MW of fuel cells. Liquid hydrogen gas requires hydrogen to be cooled below its critical point of minus 400 Fahrenheit. LHG would need to be stored and distributed in specialized equipment and stored in insulated tanks to keep the fuel in liquid state at atmospheric pressure, at minus 423 degrees Fahrenheit. LHG would result in a smaller footprint than compressed hydrogen. However, problems exist with storing the liquid, such as boil-off losses due to heat leak. For LHG to remain at a constant temperature and pressure, it must boil-off gas (BOG). BOG is essentially a loss of stored fuel that occurs when the ambient temperature heats the insulated tanks. LHG must release this gas to maintain its liquid state, the release in gas occurs at a rate of approximately 1 percent per day (Hydrogen 2021a).

Safely managing compressed or liquefied hydrogen storage systems would require special expertise and equipment which would add to the cost and complexity of the proposed

1 Compressed hydrogen conversion: 800 cubic meter per hour x 509 hours x 1/240 compression ratio x 35.32 cubic feet per cubic meter = 59,926 cubic feet

project. The presence of such storage systems would also likely raise concerns of public safety and introduce new impacts not found in the proposed project.

Fuel storage equipment must comply with standards specified by the National Fire Protection Association along with San Jose City Municipal Code to protect against hazardous material release, fire, and explosions during natural disasters and as the result of accidents. Additionally, permits for the storage of hazardous materials would be needed pursuant to the City's municipal code.

Pipeline Infrastructure. For large applications, such as the SJDC project, hydrogen would need to be supplied through multiple pipelines to mitigate onsite storage challenges and increase reliability. However, according to U.S. Department of Energy (U.S. DOE 2020b), with approximately 1,600 miles of hydrogen pipeline currently operating in the United States, there are technical concerns related to pipeline transmission, including:

- The potential for hydrogen to embrittle the steel and welds used to fabricate the pipelines.
- The need to control hydrogen permeation and leaks.
- The need for lower cost, more reliable, and more durable hydrogen compression technology.

Onsite Generation (Reforming and Electrolysis). Alternatively, hydrogen can be produced using other methods such as reforming and electrolysis.

<u>Reforming</u>

Reforming is a process that uses existing fuels with hydrogen content to react with water, which produces hydrogen and carbon oxides as products.

Steam-methane reforming (SMR) is a type of reforming. It is a thermal process, combining steam with a methane source, such as natural gas, to produce hydrogen and carbon oxides. The project currently has access to two natural gas pipelines for fuel for the natural gas generators. The SMR and its support equipment would increase project costs. SMR is typically used in SOFCs because of the resiliency of the SOFCs' interior components to high levels of CO. SMR is the preferred method of fuel reforming for SOFCs.

In the case of PEM, the CO can poison the PEM's platinum on the electrode. This leads to lower voltage at a given electrical current density (Fuel Cell 2021). SMR could produce the desired hydrogen content for PEM should further processing to remove undesired levels of CO be performed or by using a larger PEM cell where the same amount of CO would be spread over a larger electrode.

Methanol reforming, however, is the leading reforming technology candidate for PEM fuels cells because of its high efficiency and energy density (Fuel Cell 2021). It is a liquid, like conventional diesel, and can be stored onsite. Methanol is reformed with water to produce hydrogen and carbon oxides. Additional equipment required to reform methanol would increase project costs.

Both SMR and methanol reforming consume energy during hydrogen production and produce carbon dioxide that may be released into the atmosphere.

Electrolysis

Electrolysis is a technique that uses direct electric current to drive an otherwise chemical reaction. It is used as a promising option for carbon-free hydrogen production, using electricity to split water into hydrogen and oxygen. The reaction takes place in a unit called an electrolyzer. Like fuel cells, electrolyzers consist of an anode and a cathode separated by an electrolyte. There are different types of electrolyzers mainly due to the different electrolyte materials, such as polymer electrolyte membrane (PEM), alkaline, and solid oxide, but their function is essentially the same - generating hydrogen (Hydrogen 2021b).

A 1.0-MW PEM electrolyzer, the size of a 40-foot ISO container[2], can generate 18 kilograms (kg) or 200 Nm^3 of hydrogen per hour. For every kg of hydrogen produced 10 kg of water is needed. Additionally, the electrolyzer would need 49.9 kWh of energy to produce 1-kg of hydrogen (GenFuel 2021). For a 100 MW system the footprint required would be 32,000 square feet or approximately 0.73 acre.

During a grid outage, energy for the electrolyzer to generate hydrogen fuel may not be available, rendering the fuel cell inoperable and data center without power. Therefore, hydrogen may need to be produced and stored onsite for future use during emergency generation. Again, fuel storage equipment must comply with standards specified by the National Fire Protection Association along with San Jose City Municipal Code to protect against hazardous material release, fire, and explosions during natural disasters and as the result of accidents. Additionally, permits for the storage of hazardous materials would be needed pursuant to the City's municipal code. Additional equipment required for hydrogen electrolyzers would increase project costs.

Advances in fuel cell technology have led to increases in PEM fuel cell capacity and applications. However, the technology has not shown proven operating hours for large-scale backup energy solutions used in data centers. Furthermore, fuel cells would require a more robust hydrogen fuel supply infrastructure to meet the reliability requirements of large-scale data centers.

At this time further testing is needed to verify the compatibility and reliability of these fuel cells. To ensure system compatibility, more test sites or small hybrid power systems should be considered in data centers.

2 An ISO container is a container which has been built in accordance with the International Organization for Standardization regulations.

The other fuel cell types also face technical challenges that need to be resolved before they are suitable for use in data centers.

Conclusion

Currently, fuel cells for large scale backup generation are not fully proven, thus their reliability is questionable. Also, securing fuel for the cells and storing it is a challenge requiring specialized expertise and increasing costs for installing and maintaining systems that are expected to not be used that often. Data center customers demand the most reliable data storage service available. Furthermore, data center insurers are not willing to provide coverage unless they use proven technologies with extremely low probability of operational failure. Because of the limitations described above, fuel cell technology is not currently a viable alternative to the proposed project’s use of natural gas backup generators.

5.7.1.2 Standalone Battery Energy Storage Alternative

Batteries store chemical energy and convert it to electrical energy. Batteries come in many different shapes, sizes, and chemical properties and are used to supply power for many applications. Lithium-ion batteries in huge battery banks provide standby or emergency power with almost instantaneous start up times and are thus considered suitable for data centers.

Data centers currently use UPS systems consisting of batteries, to ensure a smooth transition from the grid to the generator while the generator synchronize to the data centers’ electrical busbar. The UPS system proposed for the SJDC is designed to provide up to 10 minutes of backup power at 100 percent load (Jacobs 2021o, Section 2.2). UPS systems are proven and reliable to support generator start up, but they are currently limited in power supply duration.

A Battery Energy Storage System, or BESS, would provide higher capacity and support longer outages for data center projects. A BESS can be designed to provide up to 99 MW of backup power and provides the quick start times that a data center the size of the SJDC requires.

A standalone BESS for a data center’s load demands would require ample onsite storage space for long outage durations. To date, a 300-MW/1200 megawatt-hours (MWh) (supplying 300 MW continuously for 4 hours) is the largest battery storage system successfully deployed (Power Magazine 2021). The operational duration of battery systems has currently been limited to a range of 4 to 6 hours, not concluding that the system cannot operate longer, but that it has not been demonstrated in large-scale data center applications requiring long-duration backup power, until now. Staff is aware of a recent proposal, Gilroy Backup Generating Facility, (Docket # 20-SPPE-03), for two BESS facilities each with a capacity of 50 MW and discharge capacity of 640 MWh - total capacity of 100 MW and discharge duration of approximately 13 hours. The design of this proposal includes diesel fired backup generators to support the data center when the batteries are fully discharged and further backup generation is needed, prior to the electrical grid being restored.

Potential Feasibility Issues

While battery storage technology is expanding on many fronts, the unique needs and operational patterns of data centers limit the viability of using batteries as the only facility backup power system for the data center.

Employment of a standalone BESS for the SJDC would be the first application of this technology for a project of this magnitude for long durations. For context, a typical large-scale data center stores fuel onsite for approximately 36 hours of backup generation. A 6-MWh battery storage container requires approximately 380 square feet of space. To supply 99 MW of uninterruptable power in case of 36 hours of grid outage, the project would need a 3,564-MWh battery system, assuming a 100-percent charging and discharging scenario. This translates to approximately 5 acres of battery storage space alone, not including the data center buildings and miscellaneous equipment and structures. The storage space could double, or triple for the project to meet its reliability and backup generation duration requirements. This footprint could be reduced by stacking the batteries on top of each other; however, the stacked height would be limited. The stacked containers would need to be constructed such that it can be readily accessible for maintenance and potential fire response, while mitigating seismic concerns. Alternatively, the batteries could be stored in buildings to reduce footprint but would be subject to stricter building code fire protection requirements. Reducing the footprint would increase the project cost.

Whether the batteries are single stacked, double stacked in containers, or stored in a building, the risk of fires, typically caused by thermal runaway, is apparent and currently trending in large-scale applications. Thermal runaway begins when the heat generated within a battery exceeds the amount of heat dissipated to its surroundings. If the cause of the excessive heat generated is not remedied (through heat transfer), the condition will worsen. The internal battery temperature will continue to rise, causing the battery current to rise, thereby creating a domino effect. The rise in temperature in a single battery will begin to affect other batteries in its proximity, and the pattern will continue, thus the term "runaway" (Mitsubishi 2021).

There are extensive mitigations, codes and standards, and a comprehensive regulatory framework in place that apply to battery storage to ensure the risk is less than significant. However, even a less than significant risk such as thermal runaway could affect the overall reliability of the data center and the assurance that data would not be lost. Loss of data would be very significant for an operation whose topmost goal is protecting the data against loss, and guaranteeing continuous and uninterruptable access to the data. Furthermore, if a single cell or cluster of the battery system fails the entire project may be shut down for investigation.

Once discharged, the batteries would require power to recharge; further design considerations would be needed to make this happen. Batteries have a lifetime of about 10 years. If the project's lifespan is 20 years, the batteries would have to be replaced at least once, adding to the project cost.

5.7.2 Alternatives Considered for Comparative Analysis

Staff evaluated tandem battery energy storage with natural gas generators technologies as a potentially feasible alternative to the natural gas generator technology proposed by the applicant. It is assumed that the location of the project site would remain the same under this alternative. Staff also analyzed the No Project Alternative.

5.7.2.1 Tandem Battery Energy Storage Alternative.

Staff considered a battery energy storage system in tandem (Tandem BESS) with natural gas generators. Such an option would allow the batteries to act as primary backup power for short outage durations, and the generators would provide backup power when outages are longer in duration and the batteries are discharged. However, having a tandem solution would not reduce the number of generators for the project. Again, the generators would support data center load demands for longer outages if needed. With a 99-MW-capacity BESS, providing full power demand to the SJDC, the battery system would provide primary backup power that could last for several hours based on the designed discharge capacity, followed by the project's 224 natural gas generators should the outage last longer. A tandem solution would not be the first of its kind for a data center application, as previously mentioned, but a tandem BESS with natural gas generators solution would be. For this project, the hypothetical tandem solution would include a 99-MW-capacity BESS with a discharge capacity of 1370 MWh (99 MW with discharge duration of approximately 13 hours) along with the 224 natural gas generators. The battery system would supply backup power for a duration of approximately 13 hours and the 224 natural gas generators would serve to back up the battery system once the batteries are discharged until the electrical grid is restored. The battery system would require approximately 6,300 square feet of storage space.

Project cost would increase significantly with a 1370 MWh BESS configuration. Between 2015 and 2018, the average cost of utility-scale battery storage in the United States rapidly decreased from $2,152 to $625 per kWh. However, in 2019, the average cost of battery storage in California was $1,522 per kWh (EIA 2021). In addition, the required reliability would still need to be ensured. The electrical and electronic interface between the batteries and natural gas generators would need to be tested to ensure operational reliability of at least 99.999 percent (Jacobs 2021o, Section 2.8).

As previously mentioned, once the batteries are discharged to the designed threshold, they would have to be recharged when grid service is restored. To be able to recharge the batteries from the grid, the proposed SJDC project's electrical connections would have to be redesigned. Alternatively, the batteries could be recharged using separate generators designated for battery charging. This method would not be preferred since it would require additional generators onsite and fuel use, which would defeat the purpose of deploying batteries to reduce the use of generators and fuel consumption.

While there is currently a proposal for a tandem battery and diesel-fired generators for a large-scale data center, each project is subject to different reliability requirements. What can work for one project may not work for another.

The 2022 update to the California Energy Code Title 24, Part 6 Building Energy Efficiency Standards, Nonresidential Photovoltaic (PV) and Battery Storage, includes requiring battery storage systems when PV systems are required. One of the goals of this update is to limit exported energy back to the grid from PV generation and daily cycling to reduce peak demand and energy use during peak periods. Additionally, Appendix JA12 of the updated code states that the primary function of the battery storage system is daily cycling for the purpose of load shifting, maximized solar self-utilization, and grid harmonization. The measure predicts that 100 MW of batteries would be installed in new nonresidential building in 2023 (Energy Code Update 2021, Section 3.2.2). While this prediction may be met or exceeded, it is assumed that many small capacity batteries would be installed across many buildings with PV generation to reduce peak demand for a few hours.

The use of battery systems set forth in the update through its goals and primary functions is much different than that of large-scale data centers. The goal and primary function of battery systems for large-scale data centers with large capacity demand (i.e., 99 MW) is to provide backup power during an electrical outage by the grid that may last many hours; not for daily cycling. Daily cycling of battery systems reduces the overall lifecycle, increase wear and tear, and may reduce the battery system reliability. Also, the reliability requirements of small capacity batteries used for peak demand relief for limited duration is different than large capacity batteries used as a backup power solution in large-scale data centers. Should a battery system of a building used for peak demand relief fail for any reason, the grid would still provide power to support the building's load. Whereas, if a single cell in a backup battery system fails the whole system would be rendered inoperable and the battery system would need to be taken offline and inspected. Again, for a data center such as SJDC, the only backup energy in the event of a grid outage would be from its backup power source. The reliability of the project's backup power source is of utmost importance to ensure customers' data is not lost.

Environmental Impacts

Under the Tandem Battery Energy Storage Alternative, impacts to biological resources, cultural and tribal cultural resources, geology and soils, noise, and transportation would be similar to the proposed SJDC project. The following is a consideration of the potential impacts under this alternative:

- **Air Quality.** This alternative would avoid air emissions from the natural gas generators while the batteries are being used for the data center's power supply. How much avoidance of air emissions is dependent on the data center's electrical load needing to be supported and for how long. Like the proposed project, impacts could be mitigated to a less than significant level.

- **Greenhouse Gas Emissions.** This alternative would avoid direct GHG emissions from the natural gas generators and indirect GHG emissions from grid electricity use while the batteries are being used for the data center's power supply. How much avoidance of direct and indirect GHG emissions is dependent on the data center's electrical load needing to be supported and for how long. Like the proposed project, impacts could be mitigated to a less than significant level.
- **Hazards and Hazardous Materials.** This alternative would have greater impacts as compared to the original natural gas generators. The battery energy storage system would introduce the possibility of fire from the BESS. However, as there are codes in place to deal with the fire potential of BESS, these impacts could be mitigated to less than significant.

The Tandem Battery Energy Storage Alternative would potentially lessen the proposed project's impacts identified in this EIR—none of which were found to be significant and unmitigable. If this alternative were selected, impacts could be mitigated to a less than significant level. Under this alternative the project and operating characteristics would need to be redesigned, which might pose additional feasibility issues, discussed below. See **Table 5-1** at the end of this section for a summary.

Potential Feasibility Issues

The use of a tandem system combining natural gas generators as backup to a battery energy storage system is possible to reduce the potential hours of emergency operations of the backup generators. The batteries would help respond to an emergency, but staff does not know whether the batteries could operate for load shedding, demand response and behind-the-meter RA ancillary services, as the SJDC project proposes. Without the behind the meter services, this alternative may not be fiscally viable.

- Two of the applicant's objectives are to meet the continuing need for a data center to support the San Jose region's growing business and work force population and ensure the data center achieves reduced access latency. If this alternative were selected, the redesign necessary for the SJDC project would delay the SJDC proposed online date and thus delay the applicant's ability to meet the continuing need for data centers. The selected backup electric generation technology must be extremely reliable in responding to the loss of power from the utility line the data center is connected to. Reliability would be measured by the technology's exposure to the risk of loss of data and rendering of critical services.The ultimate feasibility of this alternative, and whether it could meet most of the basic objectives of the project, is not ascertainable at this time because no such project is currently operational. Additional details on the feasibility of the alternatives from the standpoint of reliability as a key project objective are discussed above in "5.4 Reliability and Risk Factors."

5.7.2.2 No Project Alternative

Under the No Project Alternative, no development of the project site would occur, and current conditions would continue at the site for an unknown period. As discussed in **Section 4.11 Land Use and Planning** of this EIR, the project site is designated LI, Light Industrial. "This designation is intended for a wide variety of industrial uses and excludes uses with unmitigated hazardous or nuisance effects. Warehousing, wholesaling, and light manufacturing are examples of typical uses in this designation" (San Jose 2020). Should the SJDC project not be approved, the site could eventually be approved for a use or uses consistent with the land use designation. Although a different project could be proposed at the site in the future, no development plan exists to allow a comparison with the proposed project, and it would be speculative to assume anything but a "no build" scenario.

Environmental Impacts

The following is a consideration of the potential impacts under this alternative (see **Table 5-1** at the end of this section for details):

- **Air Quality.** This alternative would avoid construction related air emission due to fugitive dust and exhaust from heavy duty construction equipment. This alternative would avoid the operational emissions related to maintenance testing and operation of the natural gas-fired and diesel-fired engine generators.
- **Biological Resources.** This alternative would avoid the proposed project's potentially significant impacts to biological resources including special-status plants and wildlife, serpentine habitat due to mobile-source nitrogen deposition (as vehicles would not be added to the transportation system), the loss of land under the Santa Clara Valley Habitat Plan, and conflicts with the City's Heritage tree ordinance, as ground disturbing activities would not occur.
- **Cultural and Tribal Resources.** This alternative would avoid discovery or potential impact to buried archaeological or ethnographic resources that could be encountered during the proposed project's ground disturbing activities as the ground disturbing activities would not occur.
- **Geology and Soils.** This alternative would avoid disturbing paleontological resources as the earth moving activities during the proposed project's construction would not occur.
- **Greenhouse Gas Emissions.** This alternative would avoid project-related direct GHG emissions from the natural-gas and diesel fueled genertors and the indirect GHG emissions from the electricity use of the data center.
- **Hazards and Hazardous Materials.** This alternative would avoid encountering contaminated soil as the ground disturbing activities associated with the removal of underground utilities, as construction of the proposed project would not occur.
- **Noise.** This alternative would avoid construction noise impacts to nearby businesses, as construction of the proposed project would not occur.

- **Transportation.** This alternative would avoid the project's addition of vehicle miles traveled on the transportation system. The Class I bike trail would not be extended and multi-modal improvements to Zanker Road would not occur, both of which are required components for development in the Alviso Master Plan.

The No Project Alternative would avoid the proposed project's impacts identified in this EIR—none of which were found to be significant and unmitigable. If the project were not constructed, the applicant's primary goal to construct and operate a highly reliable data center project along with the basic project objectives would not be attained.

5.8 Environmentally Superior Alternative

CEQA requires that "[i]f the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives" (Cal. Code Regs., tit. 14, § 15126.6, subd. (e)(2)). The No Project Alternative is the *environmentally superior* alternative because it would avoid all impacts of the proposed project by not creating any physical change to the environment and maintaining the current status quo regarding the use of the project site. However, the no project alternative would not meet any of the project objectives.

The Tandem Battery Energy Storage Alternative has some advantages in terms of reducing impacts, primarily criteria pollutant and GHG emissions, but would have potentially greater fire risks. Staff considers it to be *potentially environmentally superior* to the proposed project to the extent battery discharging displaces operations of the backup generators and the generators are not used to recharge the batteries. However, the ultimate feasibility of this alternative, and whether it could meet most of the basic objectives of the project, is not ascertainable at this time because no such project is currently operational.

Table 5-1 summarizes the comparison of environmental effects for each alternative to the proposed project for the topics of air quality, public health and GHG emissions, biological resources, and hazards and hazardous materials. As discussed above, staff's comparative analyses for the other topics covered in this EIR show essentially no differences between the impacts identified under the proposed project and the alternatives evaluated above, with the exception of the No Project Alternative which would result in no impacts.

TABLE 5-1 SUMMARY COMPARISON OF IMPACTS OF THE PROPOSED PROJECT TO THE ALTERNATIVES

Environmental Topics and Impacts	Proposed Project	Alternatives	
		No Project	Tandem Battery Energy Storage Alternative
Air Quality, Public Health, Greenhouse Gas (GHG) Emissions			
Criteria pollutants	LTS with Mitigation	No Impact	LTS with Mitigation (Likely Less)
Health risks	LTS	No Impact	LTS (Likely Less)
GHG emissions	LTS with Mitigation	No Impact	LTS (Likely Less)
Biological Resources			
Nitrogen deposition (mobile sources)	LTS with Mitigation	No Impact	LTS with Mitigation (Likely Less)
Loss of land under Santa Clara Valley Habitat Plan	LTS with Mitigation	No Impact	LTS with Mitigation (Similar)
Special-status plants and wildlife	LTS with Mitigation	No Impact	LTS with Mitigation (Similar)
Hazards and Hazardous Materials			
Fire Risk	LTS	No Impact	LTS (Greater)

Notes: Impact conclusions for the proposed project and the alternatives in **Table 5-1** are shown using these abbreviations:
No Impact = the proposed project or an alternative has no potential to affect the resource
LTS = less-than-significant impact, no mitigation required
LTS with Mitigation = mitigation measure(s) required to reduce a potentially significant impact to less than significant

The comparisons of impacts to the proposed project in **Table 5-1** are conveyed using these abbreviations (staff identified no impacts that would be greater than the proposed project):

- Much Less
- Less
- Likely Less (conclusion that is estimated and cannot be fully verified with available data)
- Similar
- Greater

5.9 References

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6 Authors and Reviewers

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Appendix A

Project’s Jurisdictional and Generating Capacity Analysis

Appendix A: Project's Jurisdictional and Generating Capacity Analysis

The San Jose Data Center (project) would include 224 natural gas internal combustion engine generators (ICE) that would provide emergency backup power supply for the data center only during interruptions of electric service from Pacific Gas and Electric Company (PG&E), during an emergency, or part of a load shedding program to support grid reliability. The ICEs would be electrically isolated from the PG&E electrical transmission grid with no means to deliver electricity offsite of the data center (the distribution line would only allow power to flow in one direction – from PG&E to the data center).

Each natural gas ICE would have a nameplate output capacity of 0.45 megawatts (MW) and continuous steady-state output capacity of 0.34 MW to provide electrical power to support the data center uses during utility outages, certain onsite electrical equipment interruptions or failure, and for load shedding, demand response and behind-the-meter resource adequacy ancillary services. (Jacobs 2021o, Section 2.1). The maximum total generating facility load requirements would not exceed 99 MW. The maximum electrical load of the project would be 99 MW, although the estimated load is 77 MW, inclusive of information technology (IT) equipment, ancillary electrical/ telecommunications equipment, and other electrical loads (administrative, heat rejection, and safety/ security).

The California Energy Commission (CEC) 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 projects between 50 and 100 MW to obtain an exemption from the Energy Commission's jurisdiction and proceed with local approval rather than requiring an Energy Commission certificate. The CEC can grant an exemption if it finds that the proposed project 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 data center, 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 natural gas ICEs use a thermal energy source.
2. The ICEs and the associated data center equipment that they would support would all be located on a common property under common ownership sharing common utilities and the 224 ICEs should be aggregated and considered as one thermal power plant facility with a generation capacity of greater than 50 MW.
3. While the data center has an apparent installed generation capacity slightly greater than 100 MW (224 ICEs, each with 0.45 MW peak capacity), the "extra" MW installed

are redundant. In no case would the maximum facility-wide load demand exceed 99 MW due to physical constraints built into the project.

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 ICEs. Here, the maximum facility-wide data center load requirement would be 99 MW.
5. The backup ICEs would be exclusively connected to the data center buildings to provide electrical power during utility outages, certain electrical equipment interruption or failure, and for load shedding, demand response and behind-the-meter resource adequacy ancillary services. The ICEs would not be capable of delivering electricity to any other user or to the electrical transmission grid (Jacobs 2021o, Section 2.0). The proposed redundancies built into the design of the facility are to ensure performance reliability, not to generate and supply the data center with more than 99 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 ICEs to generate more electricity than the buildings require. Excess electricity would damage components or at a minimum, isolate the data center 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. The natural gas ICEs are 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 project is made up of ICEs that use natural gas fueled engines to convert the thermal energy in the natural gas fuel[1] into electricity from a rotating generator, thus - each ICE is an electrical generating device that uses a source of thermal energy. The facility proposes to use 224 such ICEs to service the data center.

The 224 ICEs, and the associated data center that they would support, would all be located on a common property under common ownership sharing common utilities. The ICEs would be deployed in redundant configuration and would operate at less than 100 percent capacity to provide up to the maximum of 99 MW of backup electricity to the data center when its connection to the grid is lost. The ICE system includes a 4-to-make-3 design configuration, meaning that only 75 percent of a standby ICE generator's

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1 Natural gas fuel is composed of a mixture of hydrocarbons, containing chemical energy. When ignited, this chemical energy is converted to thermal energy.

capacity is required to support load in the event of a utility failure. Any ICE can function either as a back up to the grid or a back up to the grid back up ICEs, so there is not a functional difference in the type of engine or generator between each ICE. All of the backup ICEs at the data center would share a common trigger for operation during an emergency: the transfer switch isolating the data center from the grid.

2. Title 20, California Code of Regulations section 2003 does not control.

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 natural gas-fueled ICEs as used in the data center, 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 MWs at the switchyard bus; that is, gross MWs 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 electric 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

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.

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 reasonable for staff to consider that the controlling factor in how much electricity is capable of being generated to be the 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 generators[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 ICEs 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 a data center, the load served acts as a limit to the generation levels from the ICEs 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 "data center grid" does. If the breakers between the data center building and the ICEs were to trip due to excess generation, the data center

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.

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 ICE(s) would open the engine fuel throttle to increase generation output and match demand but would still not exceed the combined 99 MW IT and building demand.

4. *The data center's capacity will not exceed 99 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 99 MW. As explained above, it would be physically impossible for the ICEs to generate more electricity than the buildings require. The applicant would stipulate, in an agreement with the utility, to a contractual limit in the amount of electricity available from PG&E's system to a maximum of 99 MW. The applicant would operate the ICEs for 500 hours per year for the purpose of grid support through load shedding, demand response, and behind-the-meter Resource Adequacy (RA) ancillary services. At no time during the load shedding, demand response and behind-the-meter RA services would the project generate electricity for the electrical grid. The generators would continue to deliver electricity for the data center building and would not be interconnected to the grid. The natural gas generators would operate bi-weekly for approximately 20 minutes.

The maximum demand of 99 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. Such 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 ICEs 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 facility load of 99 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 data center and backup generation facility would be regulated by each building and each bay in that building. Software would be used to operate the ICEs 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 ICEs 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 data center is at full load, its worst-case day combined IT and building load[6] would not exceed 99 MW. The project proposes generators that total more than 99 MW for purposes of redundancy. The combined generating capacity of the installed operational ICEs is autonomously determined by the electrical equipment in the data center server bays and building equipment in use at the time of an emergency. The northern building (SJC02) would consist of 140 standby ICEs. The southern building (SJC03) would consist of 84 standby ICEs. The project has been designed with eight colocation units (colos) with supporting amenities, with five colos for the northern building and three for the southern building. The emergency operation of each lineup is fully automated. Once the data center loses connection to the local grid, the transfer switch isolates the data center from the local PG&E grid and all of the ICEs assigned to a server bay set initiate startup up to 75 percent of their full load capacity. As the ICEs start, synchronize, and take up load associated with their server bays and building equipment, the UPS system supplies up to 10 minutes[7] of power to smoothly transition the data center customer's data servers from the grid to the emergency ICEs (Jacobs 2021o Section 3.5.1). If an ICE or two fail to start or synchronize, the ICEs in the 4-to-make-3 server bay initiates a ramp up to higher output levels. The output of the ICE assigned to a server bay set match (meet but cannot exceed) the data center data customer's IT

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 ICEs are expected to be on and synchronized within a minute or less, but the UPS can supply up to 10 minutes of power at 100 percent full-load UPS to ensure a complete transition from the grid to the gensets.

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 data center 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 99 MW, which would prevent damage to IT servers and building equipment. Therefore, it would be physically impossible for the ICEs to generate more electricity than what the data center would use, or more than 99 MW.

References

Jacobs 2021o – Jacobs (Jacobs). (TN 239409). SJDC SPPE Application Supplemental Filing Volume 1, dated August 20, 2021. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

Appendix B

Pacific Gas and Electric Company Los Esteros Substation Details

Appendix B: Pacific Gas and Electric Company Los Esteros Substation Details

This appendix includes a discussion of the Pacific Gas and Electric Company's (PG&E) electrical system reliability (including supporting information) and emergency operations.

Electrical System Reliability

Apart from readiness testing, the backup generators are designed to operate only when the electric system is unable to provide power to the data center. To understand the potential for the backup generators to operate during emergencies, one needs to know the conditions under which the electric system is unable to provide power to the data center. There are essentially five conditions that might result in the operation of the backup generators:

1. A fault occurs (power supply interruption) or planned maintenance is required on the equipment interconnecting the data center to the PG&E grid and the data center's electricity needs cannot be met.
2. An outage or fault occurs on the utility transmission system and PG&E is unable to provide power to the data center.
3. A Public Safety Power Shutoff (PSPS) impacts the utility transmission system and the data center is not able to receive power from PG&E.
4. An energy shortage crisis similar to the one in late Summer 2020 where the utility (e.g. PG&E) is unable to supply electricity to the data center or the data center operators voluntarily disconnect from the utility and relies on backup generators to provide the needed electricity.
5. The generators could also run when the utility/the California Independent System Operator (California ISO) calls for participants in the Baseline Incentive Program (BIP) to reduce loads.

Due to the design of the data center interconnection with PG&E, the design of the PG&E transmission network, and the historical and expected impacts of PSPS, staff expects the backup generators would only be used in rare events outside of testing and maintenance and participation in the BIP program.

The proposed data center interconnection to PG&E includes redundant facilities that will allow the data center energy needs to be met even when maintenance is required on the transmission system. Thus, transformer or transmission line maintenance could be performed without interrupting the supply of electricity from PG&E.

The PG&E Los Esteros Substation currently has six 115 kV lines and two 230 kV lines connected to substation. Two additional 115 kV underground cables would be built to connect the SJDC Substation to the Los Esteros Substation. Each cable could supply the full data center loads. The SJDC Substation is also designed to include three 60 MVA transformers when only two are required to supply the full loads of the data center. Thus, transformer or transmission line maintenance could be performed without interrupting the supply of electricity from PG&E. The proposed design of the PG&E interconnection facilities provides redundancy such that the backup generators would not be needed during transmission system maintenance.

The California ISO and PG&E are responsible for the reliability of the transmission network and are required to maintain compliance with national, regional, state and local standards. These standards are complicated but, generally speaking, they require that no loads be dropped, customers shut off, when any single element of the bulk electric system is forced out of service. For the SJDC this means that PG&E should be able to supply power whenever any single part of the transmission system is out of service, sometimes called an N-1 or single contingency condition. This is the equivalent of, at a minimum, providing a looped system for the SJDC.

The interconnection to the Los Esteros Substation provides better reliability than a looped system as the substation could receive power from either the 230 kV lines (Los Esteros-Metcalf and Newark-Los Esteros) or through six 115 kV lines connected to the substation. The PG&E outage data provided in the applicant's Data Request Set 2 Response shows the value of the redundant interconnections. The data response indicated that from 2003 to 2018 there were twenty-four outages of the either the Los Esteros-Metcalf 230 kV line or the Newark-Los Esteros 230 kV line and only one of the outages resulted in customers losing service. Even though there are outages on the 230 kV lines they rarely result in customers not being served.

The PG&E outage data provided in the applicant's Data Request Set 5 Response indicated there have been five outages of the 115 kV lines feeding the Los Esteros substation: two outages in 2008, two outages in 2010, and one outage in 2014. The outages occurred in 2008 with a collective outage duration of 18 hours and 20 minutes. Since 2010, the duration of outages for these 115 kV lines is less than 3 minutes. None of the outages were due to PSPS events.

Wildfire policies could impact PG&E's ability to supply power to SJDC if curtailments on the transmission system interrupt supplies to the Los Esteros Substation. A 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. 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 electricity transmission access and supply to the Los Esteros Substation.

As indicated in the Data Request Set 5A Responses, dated March 3, 2021, the Newark-Los Esteros 230 kV line is not in a high fire risk zone (Tier 1). The Los Esteros-Metcalf 230 kV line is routed through a Tier 2 high fire risk zone. It is unlikely that a PSPS event would result in both 230 kV lines being taken out of service.

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 the Los Esteros Substation. As the utilities and regulators try to balance the costs and benefits of PSPS by fine tuning and targeting the implementation, the mostly likely outcome is that future PSPS events will have even fewer potential effects on PG&E's territory.

CEC Staff expects the SJDC backup generators to be required to supply data center loads only rarely due to utility outages or certain onsite electrical equipment interruptions or failure. According to Data Response #6, SJDC anticipates participating in the BIP which would obligate SJDC to run the backup generators to supply data center loads when requested by PG&E or the California ISO for purposes of load shedding to support grid stability.

While the applicant used 500 hours when estimating air emissions, the applicant's responses to Data Request Set #6, state that the "BIP currently requires a 30-minute response to an event dispatch and requires participants to be available up to 180 hours per year []; however, historically it has not been called more than 30 hours annually in the last 12 years []." (Jacobs 2021y).

While SJDC would be available up to 500 hours, based on the reliability of the PG&E's regional grid supporting the SJDC and the historical BIP data, it can be expected that overall, the generators will rarely operate, especially outside of the BIP program and routine testing. The generators will not be used when maintenance is performed on the transmission line or substation connecting the data center to the PG&E grid.

The PG&E system around the Los Esteros Substation can supply power to the data center from multiple sources including two 230 kV and several 115 kV transmission lines. These interconnections make the energy supply to the data center at least as reliable as a looped system but likely even more reliable. Finally, PSPS events have not impacted customers directly connected to the Los Esteros Substation and as we expect the effects of PSPS events to decrease over time we do not think this will be an issue for the SJDC going forward.

Energy shortages, like those that occurred on two occasions in 2020, could prevent a utility from supplying the data center electricity needs and the data center would then rely on backup generators. Recently, the California Public Utilities Commission (CPUC) has adopted a new pilot program (D.21-03-056), currently in effect through 2025, which ordered PG&E, Southern California Edison and San Diego Gas and Electric to administer the Emergency Load Reduction Program (ELRP). Data centers could voluntarily participate in the ELRP and in the event of an energy shortage emergency, they would disconnect from the grid and use their on-site generators to supply electricity. The ELRP provides a mechanism for utilities to measure the load reduction and provide financial compensation to the participants. The ELRP does not affect the likelihood of emergency shortage events. The last time an energy shortage event occurred, like those in 2020, was 2001. If the past is indicative of future shortage, they are rare events. The project can participate in the ELRP even if they are in the BIP program. The applicant would only be paid and counted for the load reductions in the ELRP beyond those committed to in the BIP.

Electrical Reliability Supporting Information

Energy Commission staff provided a series of questions to PG&E designed to understand when, why, and for how long backup generators would need to operate for any purpose, including PSPS, other than readiness testing or maintenance at the proposed data center in the PG&E service area.

This supporting information includes the following:

1. SJ Data Request Set 2 Response on February 13, 2020 to staff questions (including tables listing outage history between 2003 – 2018 of the Los Esteros-Metcalf 230 kV and Los Esteros-Newark 230 kV lines.
2. SJ Data Center Data Request Set 5 Responses on October 30, 2020 to staff's questions (including a table listing outages between 2007 – 2020 of the Los Esteros Substation 115 kV systems).
3. SJ Data Request Set 5A Response on March 1, 2021: PG&E's Response to staff questions on Set 5.
4. SJ Data Center Response to Data Request Set #6 on October 15, 2021.

February 13, 2020: Response to Staff Data Request Set 2 (46 – 49)

46) Please provide information that reviews the frequency and durations of historic outages of the 230 kV facilities that would be likely to trigger a total loss of service to the proposed onsite substation and lead to emergency operations of the diesel-powered generators. This response should identify the reliability of service historically provided by PG&E to other similar data centers in its service territory.

Response: Tables DR46-1 and **DR46-2** presents the outage historic, frequency, and duration for the Los Estero-Metcalf and Los Esteros-Newark 230 kilovolt (kV) transmission lines supplying the 230-kV bus at the Los Esteros Substation. The Applicant will request PG&E provide information regarding the reliability of service historically provided by PG&E to other similar datacenters in its service territory and will docket this information when received.

47) Please provide information on the historic outages of the 230-kV portion of the Los Esteros Substation.

Response: See the response to Data Request #46.

Table DR46-1 Los Esteros-Metcalf and Los Esteros-Newark 230 Kilovolt Line Outage History

kV	Transmission Line	Date/ Time Out	Durn (mins)	Cause Category	Cause Detail	Secondary Cause	Comments	Cust Affected
230	LOS ESTEROS-METCALF	03/21/07 03:49	91	Unknown	Patrol found nothing	NONE	Relayed, properly didn't test (has underground section so no auto test); no customers out; weather clear; patrol found no evidence for why line relayed; eventID=4600	0
230	LOS ESTEROS-METCALF	05/27/08 19:50	16	Unknown	Patrol found nothing	NONE	Relayed, did not test (Newark_LosEsteros-230kV); open ending this line at Metcalf & Newark 230kV static var compensator tripped offline; no customers out; weather clear	0
230	LOS ESTEROS-METCALF	06/05/08 18:38	222	External contact	Foreign object	COND	Relayed, didn't test; at same time, Metcalf_MossLanding #2-230kV open ended at ML; no customers out; weather clear, breezy; patrol found marsh grass on conductor at twr 1/10	0
230	LOS ESTEROS-METCALF	09/05/08 20:30	8,793	Equipment failure	Arrestor	ARRS	Relayed, properly did not test; no customer interruptions; on trouble, Newark_LosEsteros open ended at Newark by out of section tripping, reclosed OK (eventID=5986); weather clear; line later cleared to repair failed lightning arrestor on twr L4/10B on 'A' phase; eventID=5999	0
230	LOS ESTEROS-METCALF	04/25/09 11:39	426	External contact	Foreign object	COND	Relayed, did not test as designed due to UG cable on lineTLine; approx 1/2-mile out from LosEsteros sub on A Phase at TSP L6/25 found flashed hot end yoke plate, cause for this flashing though could not be confirmed; this is 3rd time in a year that we've had this type of event--1st 2 events were found to be balloons between middle & top phases; ET to work with Engg to come up with a solution to gain more separation between conductor & lower arm; eventID=6539	0
230	LOS ESTEROS-METCALF	06/22/12 14:42	159	Disaster	Fire	NONE	Relayed, did not test by design; caused by a small grass fire by tower LO/06B; no equipment damage; no customer interruption; weather clear; 1721 line manually tested OK; TARGETS: SET "A' LINE DISTANCE & OC RLY # 221/267NA-4 = NO TARGETS SET "B" LINE DISTANCE & OC RLY #221/267NB-4 = COMM, ZONE 2, A PHASE GROUND, 43.82 MILES, GROUP 1 BREAKER BU RLY 250/262BF-4 = 50 A, N. OPERATIONS; patrol found no damage, unsure what caused fire	0
230	LOS ESTEROS-METCALF	09/17/13 02:29	541	Unknown	Patrol found nothing	NONE	Relayed - 09/17/13, 0229 LosEsteros-Metcalf 230kV relayed, did not test by design (partial UG circuit); no customer interruption; weather clear; 1130 line returned to service after patrol of UG found no trouble	0
230	LOS ESTEROS-METCALF	05/14/15 13:46	156	Weather	Lightning	UG	Relayed - 05/14/15, 1346 LosEsteros-Metcalf relayed, properly did not test due to UG section; no customer interruption; rain, lightning; B-G fault 23 mi from Metcalf near twr 22/99, +/- 4.0 mi; 1621 line manually tested OK after crew found no trouble; 1622 line returned normal; coincident lightning strike shown in GIS across structure 019/088, patrol found no damage	0
230	LOS ESTEROS-METCALF	08/06/15 21:32	104	Weather	Lightning	NONE	Relayed - 08/06/15, 2132 LosEsteros-Metcalf relayed, properly did not test; no customer interruption; lightning; A-G fault 6.48 MI FROM Metcalf near structure 006/031, +/- 3 mi; 2315 line manually tested OK; 2316 line returned to service; air patrol found no damage, no specific cause (probable lightning); eventID=11376	0
230	LOS ESTEROS-METCALF	05/03/16 23:27	98	Equipment failure	Insulator-line	INSL	Relayed - 05/03/16, 2327 LosEsteros-Metcalf relayed, did not test by design due to UG section; no customer interruption; light rain; 5/04/16, 0105 the line returned to normal; A-G fault 13.5 mi from Metcalf near twr 013/063, +/- 3.0 mi; found flashed insulator bells at TWR 13/61 MIDDLE PHASE, will schedule hot wash	0
230	LOS ESTEROS-METCALF	01/19/17 10:09	265	Unknown	Patrol found nothing	NONE	Relayed - 01/19/17, 1009 LE-Metcalf relayed, did not by design; no customers interrupted; rain, lightning; A-B-G fault 8.84 mi from Metcalf & 36.88 mi from LosEsteros (w/in OH section near structure 8/42 (accuracy might be compromised due to mixed OH and UG sections, as well as super bundle sections), +/- 4 mi; 1425 line patrol complete, no trouble found; 1432 line manually tested OK after no trouble found; 1434 line returned normal	0
230	LOS ESTEROS-METCALF	01/23/17 19:59	83	Equipment failure	Connector/ hardware	COND	Forced - 01/23/17, 1959 to 2122 LE-Metcalf 230kV forced out to remove fiber optic cable wrapped in conductor bet structures L7/27-28; no customers interrupted	0
230	LOS ESTEROS-METCALF	02/24/17 10:44	38	Equipment failure	Switch-station	DISC	Forced - 02/24/17, 1044 to 1122 LE-Metcalf 230kV open-ended after Metcalf CB-262 forced out due to arcing Metcalf SW-269; no customers interrupted;	0
230	LOS ESTEROS-METCALF	04/03/18 19:31	38,859	Equipment Failure	Equip Fail-bushing	UG	Forced - 04/03/18, 1931 LosEsteros-Metcalf forced out to repair cable oil leak at 'B' phase pothead; no customers interrupted; ETOR 05/08/18 to await manufacturer's arrival, diagnosis & any repair recommendations; 04/30/18, 1910 LE-Metcalf 230kV cable returned to service after repair of oil leak on "B" phase pothead at LosEsteros	0
230	NEWARK-LOS ESTEROS	02/20/07 22:32	4,320	Equipment failure	Other-line	UG	Relayed, did not test; SUS NewarkDist; 2356 NewarkDist restored; found blown pothead next day @ structure L4/10A; est 03/07/07; 03/22 cable returned to service after repair of cable sect B; eventID=4582	10,209

Table DR46-1 Los Esteros-Metcalf and Los Esteros-Newark 230 Kilovolt Line Outage History

kV	Transmission Line	Date/ Time Out	Durn (mins)	Cause Category	Cause Detail	Secondary Cause	Comments	Cust Affected
230	NEWARK-LOS ESTEROS	05/21/07 07:11	729	Other	Safety clearance	UG	Forced out to inspect 'B' side UG cable terminals	0
230	NEWARK-LOS ESTEROS	05/27/08 19:50	247	Unknown	Patrol found nothing	NONE	Relayed, did not test (UG); LosEsteros_Metcalf-230kV open ended at Metcalf & Newark 230kV static var compensator tripped offline; no customers out; weather clear	0
230	NEWARK-LOS ESTEROS	09/05/08 20:30	1	Equipment failure	Relay	RELY	Relayed (open ended at Newark, reclosed OK) by out of section tripping coincident with the relay, proper no test of LosEsteros_Metcalf-230kV (eventID=5999); no customer interruptions; weather clear; LosEsteros_Metcalf later cleared to replace failed lightning arrestor on twr L4/10B on 'A' phase; eventID=5986	0
230	NEWARK-LOS ESTEROS	10/12/08 06:27	228	External contact	Foreign object	COND	Relayed, properly didn't test due to UG portion; no interruptions; weather clear; 1015 no trouble found on patrol, line returned to service (target ~7 mi out of Newark, outside of UG portion); ET & Asset Strategy did air patrol; at structure L7/28 middle phase conductor yoke plate had arc marks, indicating arc occurred between hot end hardware & grounded steel arm; no definitive cause found, however dozens of large tumble weeds in LosEsteros sub owned by PG&E, just outside the SantaClaraValley Power sub, operated by CalPine; composite insulators were also identified as heavily contaminated; will wash insulators & re-configure structure to gain maximum clearance from the conductors to the structure; ET will also ensure tumble weed condition is cleared at the Station location; reinvestigation determined most likely cause was metallic balloons, which were found near the station w/ burn marks; eventID=6079	0
230	NEWARK-LOS ESTEROS	04/25/09 11:39	1	Equipment failure	Relay	RELY	Relayed (open ended) coincident w/ relay, no test of LosEsteros_Metcalf after Newark Distribution CBs 940 & 880 opened, reclosed OK via autos; appears 940/880 Set B line relay is over-reaching per System Protection; eventID=6526	0
230	NEWARK-LOS ESTEROS	01/14/17 13:14	1,412	Equipment failure	Arrestor	ARRS	Relayed - 01/14/17, 1314 Newark-LE relayed, properly did not test by design; no customers interrupted; weather clear; A-G fault 3.73 mi from Newark Dist sub near UG cable section @ crossing of Newark-Milpitas#2 bet twrs 002/035-036, +/- 2 mi; 2258 line manually tested NG; 01/15/17, 1246 line returned to service after removal of blown lightning arrestor at L4/10A bottom phase	0
230	NEWARK-LOS ESTEROS	01/19/17 10:18	58	Unknown	Patrol found nothing	NONE	Relayed - 01/19/17, 1018 Newark-LE relayed, did not test by design; no customers interrupted; rain, lightning; 1114 Newark-LE manually tested OK, no trouble found; 1116 line normal	0
230	NEWARK-LOS ESTEROS	01/23/17 20:11	82	Equipment failure	Connector/ hardware	COND	Forced - 01/23/17, 2011 to 2133 Newark-LE 230kV forced out to remove fiber optic cable wrapped in conductor bet structures L7/27-28 on LE-Metcalf; no customers interrupted	0
230	NEWARK-LOS ESTEROS	10/13/18 09:22	146	Equipment Failure	Equip Fail-switch-line	LS	Forced - 10/13/18, 0922 to 1148 Newark-Los Esteros forced out to repair SW-889; no customers interrupted	0

Table DR46-2 Los Esteros-Metcalf and Los Esteros-Newark 230 Kilovolt Line Outage Frequency and Duration

		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018	
kV	Line Name	Accum Freq F	Accum Durn (mins) D	F	D	F	D	F	D	F	D	F	D	F	D	F	D	F	D	F	D	F	D	F	D	F	D	F	D	F	D	F	D
230	LOS ESTEROS-METCALF	1	32	1	4,320	1	138	1	4,320	2	4,411	4	5,196	1	426	0	0	0	0	1	159	1	541	0	0	2	260	1	98	3	386	1	4,320
230	NEWARK-LOS ESTEROS	2	620	0	0	0	0	0	0	2	5,049	3	476	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1,552	1	146

		2003 thru 2018								2014 thru 2018							
kV	Line Name	1st Year of Avail	Accum Freq Since 1st Yr	Accum Durn Since 1st Yr	No of Yrs	MTBF (yrs)	MTBF (mos)	MTTR (mins)	Availability 2003-2018 (A1)	Accum Freq Since 2014	Accum Durn Since 2009	No of Yrs	MTBF (yrs)	MTBF (mos)	MTTR (mins)	Availability 2014-2018 (A2)	Availability: % Improvement/ Degradation (A2-A1)/A1
230	LOS ESTEROS-METCALF	2003	20	24,607	16	0.80	9.6	1,230	99.7074%	7	5,064	5	0.71	8.6	723	99.8%	0.1002%
230	NEWARK-LOS ESTEROS	2003	12	7,844	16	1.33	16.0	654	99.9067%	4	1,698	5	1.25	15.0	425	99.9%	0.0287%

48) Please describe whether a loss of the 230-kV portion of the Los Esteros Substation could cause a loss of service to the proposed data center.

Response: The SJC02 electrical interconnection to the Los Esteros Substation is through two interconnection points to two different 230-kV bus locations (PG&E proposes to add a second new bay with two breakers installed to support SJC02 interconnection). This interconnection design provides highly reliable service as SJC02 will be connected to the substation with 230-kV lines connected at different bays. Losing a 230-kV bus or a breaker at the Los Esteros Substation will not interrupt service.

49) Please describe whether the existing Newark-Los Esteros or Metcalf-Los Esteros 230 kV circuits could be looped into the data center's onsite substation and if feasible, whether doing so would increase or decrease electric service reliability to the data center.

Response: PG&E proposed two 230-kV interconnecting within the Los Esteros Substation at two separate buses to provide reliable electric. The Applicant will consult PG&E to determine if looping in the existing Newark-Los Esteros or Metcalf-Los Esteros 230 kV circuits into the SJC02 substation is feasible. The Applicant will docket PG&E's response when received.

October 30, 2020: Response to Staff Data Request Set 5 (58 – 63)

58) Please provide the proposed 115 kV underground cables' name, type, current carrying capacity, and size. Would each individual cable be rated high enough to serve the total data center load, or are both underground cables required to serve the rated load?

Response: The tie-lines connecting the San Jose Data Center project (SJC02) to Pacific Gas & Electric Company's (PG&E) Los Esteros substation are connecting to two separate bays, bays 7 and 8, configured in a breaker-and-a-half (BAAH) scheme. Therefore, an outage in either of the SJC interconnections will not cause an outage at SJC02. If a breaker in either bay 7 or 8 failed to open, it may result in the loss of one of the 115 kV lines serving SJC02, but the other SJC02 interconnection would still supply the entire SJC02's electrical demand. As a result, SJC02, with redundant electrical interconnections, typically would only experience power quality impacts when there is a transmission outage. A line outage could occur with force majeure events (such as an earthquake), however, bays 7 & 8 at the Los Esteros substation are served from the Los Esteros Critical Energy Facility (LECEF) (LECEF #1 and #2) via 115 kV underground cables, which may be less prone to outages associated with overhead power lines.

The tie-lines connecting the SJC02 to Los Esteros substation are 1,250 kcmil copper XLPE extruded dielectric cables capable of transmitting 150 MVA. These lines are currently planned to be underground lines. PG&E has indicated that overhead lines may also be used, but they have not provided any additional information about the number or types of poles required for an overhead interconnection.

59) Would the design of the system prevent both 115 kV lines from going out of service at the same time? If so, how?

Response: As noted in the response to Data Request #58, the SJC02 is supplied by two redundant interconnections, with each interconnection tied to a different bay in the Los Esteros substation. A loss of both breakers in both bays in the substation is a possible but unlikely event.

60) The Los Esteros Substation one-line diagram indicated that there are six existing 115 kV transmission lines connected to the Los Esteros Substation 115 kV bus. Are the 115 kV lines able to provide power to the Los Esteros Substation when one or both of the 230 kV lines (Metcalf-Los Esteros and Newark-Los Esteros) are out of service?

Response: The Applicant is waiting for a response from the utility on this request. Once received, a response will be filed.

61) Please describe any outages or service interruptions, including Public Safety Power Shutoffs (PSPS), on the 115 kV systems that would serve the proposed San Jose City Data Center:

a. How long were any outages, when did they occur, and what were their causes?

Response: Table DR61 presents the outages for the 115 kV lines for the Los Esteros Substation from 2007 to 2020, including the reported causes.

PG&E has indicated there have been no planned outages this year. Table DR61 shows that since 2007, there have been five outages of the 115 kV lines feeding the Los Esteros substation. Two events (each) in 2008 and 2010 and one event in 2014, with a collective outage duration of 18 hours and 20 minutes.

Since 2010, the duration of outages for these 115 kV lines is less than 3 minutes. None of the outages were due to PSPS events.

b. Did PG&E implement equipment upgrades or operational changes to reduce the likelihood of a repeat of the events that led to an outage?

Response: PG&E's actions regarding each outage are described under the comment column of Table DR61.

c. What were the responses to the outage(s) by any existing data centers (i.e., initiated operation of some or all backup generation equipment, data off-shoring, data center shutdown, etc.)?

Response: The Applicant is waiting for a response from the utility on this request. Once received, a response will be filed.

62) Please provide historic information on the frequency and duration of outages of the 115 kV facilities, including the 115 kV portion of the Los Esteros Substation that would be likely to trigger a total loss of service to the proposed data center's onsite substation and lead to emergency operations of the diesel-powered generators. Please include the reliability of service historically provided by PG&E to other similar data centers in its service territory and located in Santa Clara County.

Response: Table DR61 provides the historic information on the frequency and duration of the 115 kV portion of the Los Esteros substation. The Applicant is waiting for a response from the utility on this request. Once received, a response will be filed.

63) How would local and regional PSPS events be implemented on the 115 kV system compared to PSPS events on the 230 kV system (in other words, would a customer who is extremely concerned about reliability prefer one system over another)?

Response: The Applicant is waiting for a response from the utility on this request. Once received, a response will be filed.

TABLE DR 61 OUTAGE HISTORY LOS ESTEROS 115 KV

FACILITY	Date Out	Time Out	MED	Duration (hr:min)	Duration (mins)	Date In	Time In	Out Cls	Cause Category	Cause Detail	Secondary Cause	Comments	Customers Affected
LOS ESTEROS-NORTECH	08/03/08	23:14	No	12:46	766	08/04/08	12:00	F	Equipment failure	Relay	RELY	Relayed, failed to reclose (LE CBs 632 & 732); no customer interruption; weather clear; forced out next day to investigate; eventID=5898	0
LOS ESTEROS-NORTECH	08/04/08	12:11	No	5:31	331	08/04/08	17:42	F	Equipment failure	Relay	RELY	Forced out Nortech CB-122 to investigate NG Set B and breaker failure relays, open ending this line (LosEsteros CBs 632 & 732 had relayed yesterday at 1211); found metal shavings in cabinet that may have contacted relay; eventID=5898	0
LOS ESTEROS-TRIMBLE	01/11/10	15:42	No	0:01	1	01/11/10	15:43	F	Equipment failure	Other-station	COMM	Relayed, tested OK; Trimble CB 332 opened, no fault on system; all relay event reports showed breaker opening, no fault & CB automatically closed by parallel feature; no customer interruptions; weather cloudy; extensive testing performed on LFCB relay, found to be in proper working order; initial relay problems caused by a malfunctioning communication channel bank card that has since been repaired; eventID=7015	0
LOS ESTEROS-TRIMBLE	04/09/10	8:40	No	0:01	1	04/09/10	8:41	F	Unknown	Patrol found nothing	NONE	Relayed, tested OK; no customer interruption; weather clear; patrol found no cause	0
LOS ESTEROS-MONTAGUE	11/19/14	16:34	No	0:01	1	11/19/14	16:35	F	Unknown	Patrol found nothing	NONE	Relayed - 11/19/14, 1634 LosEsteros-Montague 115kV open ended after Montague CB-132 tripped open, reclosed by automatics; MOM Montague #1 & #2-115/21kV xfmr (7,872); rain; no indication of any system disturbance that might have caused trip, so clearance has been set on 12/29/14 to do a functional test on CB-132	7,872

March 1, 2021: Response to Staff Data Request Set 5A (60, 61, and 63)

60) The Los Esteros Substation one-line diagram indicated that there are six existing 115 kV transmission lines connected to the Los Esteros Substation 115 kV bus. Are the 115 kV lines able to provide power to the Los Esteros Substation when one or both of the 230 kV lines (Metcalf-Los Esteros and Newark-Los Esteros) are out of service?

Response: Attachment DR-60 presents Pacific Gas and Electric Company's (PG&E) responses to Data Request #'s 60, 61c. and 63.

61) Please describe any outages or service interruptions, including Public Safety Power Shutoffs (PSPS), on the 115 kV systems that would serve the proposed San Jose City Data Center:

c. What were the responses to the outage(s) by any existing data centers (i.e., initiated operation of some or all backup generation equipment, data off-shoring, data center shutdown, etc.)?

Response: See Attachment DR-60.

63) Please provide the following regarding Public Safety Power Shutoff events:

a. Would historical Public Safety Power Shutoff events have resulted in the emergency operations at the proposed San Jose City Data Center?

b. Have there been changes to the PG&E system around the San Jose City Data Center that would affect the likelihood that future Public Safety Power Shutoff events would result in the operation of the project's emergency generators?

Response: See Attachment DR-60.

Pacific Gas and Electric Company's Response to DataRequest Data Request #'s 60, 61c. and 63

Questions for PG&E related to the proposed San Jose Data Center

Q1) The Los Esteros Substation one-line diagram indicated that there are sixexisting 115 kV transmission lines connected to the Los Esteros Substation 115 kV bus. Are the 115 kV lines able to provide power to theLos Esteros Substation when one or both of the 230 kV lines (Los Esteros-Metcalf and Newark-Los Esteros) are out of service?

Response: Yes, even with both 230 kV lines out of service, the 115 kV system connected into Los Esteros should be able to supply power to all customers – if local generation facilities are producing power. Two of the six 115 kV lines connected into Los Esteros Substation are the interconnection for Calpine's Los Esteros Critical Energy Facility (LECEF). That generation facility has a maximum output of 300 MW. The Agnews cogeneration facility, which has a maximum output of over 25 MW, is connected into Los Esteros via the Los Esteros-Agnews 115 kV Line. And Silicon Valley Power's DVR Power Plant, which is connected into the 115 kV, has maximum output of 145 MW.

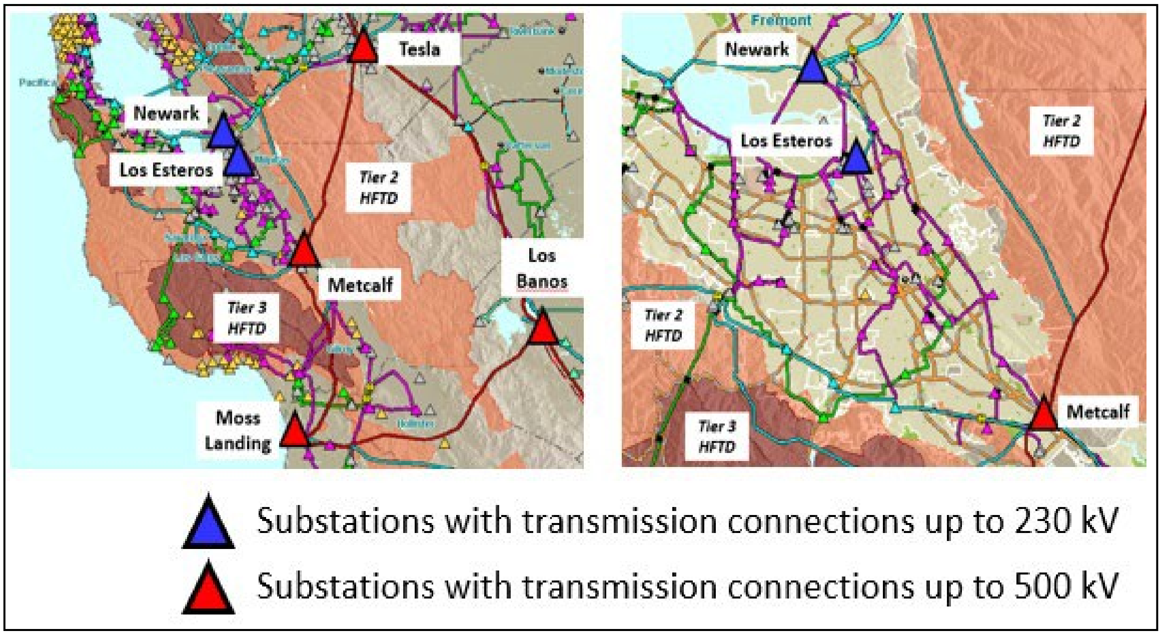
The only problem in the area would be outages of the two 230 kV lines with LECEF off-line during summer peak conditions. That would result in overloadson the 115 kV lines from Newark into the San Jose area and slightly lower voltages in the area. However, that is not a likely event. The next question explains this unlikelihood in more detail.

Q2) Please describe any past outages or service interruptions, including Public Safety Power Shutoffs (PSPS), on the 115 kV systems that wouldserve the proposed San Jose Data Center:

a. Did PG&E implement equipment upgrades or operational changes to reduce the likelihood of a repeat of the events that led to an outage?
b. What were the responses to the outage(s) by any existing data centers (i.e., initiated operation of some or all backup generationequipment, data off-shoring, data center shutdown, etc.)?

Response: The Microsoft San Jose Data Center will be connected into Los Esteros Substation via two, short 115 kV lines. The maps below show the high-fire threat districts (HFTD's) in the South Bay area. Almost all of the Silicon Valleyarea is in a Tier 1 HFTD, which is not a high-risk fire area. So there have beenno PSPS events in the area.

It is very unlikely that a PSPS event would result in outages of the 115 kV lines in the South Bay area. A PSPS event could potentially impact some of the 500 kV and 230 kV bulk transmission lines supplying power to Newark and Metcalf Substations, although it is very unlikely that an event would result in all of those lines being impacted.



The Los Esteros-Metcalf 230 kV Line is routed through a Tier 2 HFTD. The Newark-Los Esteros is not in a HFTD. So it is unlikely that a PSPS event would result in both 230 kV lines being taken out of service.

Most of the events that have impacted data centers in the Bay Area have been power quality events, where faults on the transmission system have resulted in momentary low voltages on the system. When installing equipment that couldpotentially result in momentary voltage sags on the system (such as shunt capacitors connected to the transmission system), PG&E does studies to confirm that switching the device on or off will not result in a power quality event.

Q3) How would local and regional PSPS events be implemented on the 115 kVsystem compared to PSPS events on the 230 kV system (in other words, would a customer who is extremely concerned about reliability prefer onesystem over another)?

Response: Events on both the 115 kV and 230 kV systems are implemented in the same way. The transmission lines that could be impacted by a major weather eventare evaluated to determine their potential risk of having a component failure inthe event. If that risk is high on a line, then PG&E would proactively de- energize that line to prevent a possible failure initiating a wildfire.

Q4) Please provide answers to the following questions regarding PSPSevents:

a. Would historical PSPS events have resulted in loss of power to theproposed San Jose Data Center?

b. Have there been changes to the PG&E system around the San Jose Data Center that would affect the likelihood that future PSPS events would result in loss of power to the proposed San Jose Data Center?

Response: None of the past PSPS events would have resulted in a loss of power to the proposed San Jose Data Center. And there have been no changes to the PG&E system in the area that would increase the likelihood that a future PSPS event would result in a loss of power to the proposed San Jose Data Center.

October 15, 2021: Response to Staff Data Request Set 6 (84) (Jacobs 2021y)

Data Request

84) Please explain how the backup natural gas generators would respond to load shedding, demand response and resource adequacy ancillary services when they are not connected to the grid.

Response: The natural gas generators will be available for grid services to CAISO, primarily through PG&E's Base Interruptible Program (BIP). BIP currently requires a 30-minute response to an event dispatch and requires participants to be available up to 180 hours per year[10]; however, historically it has not been called more than 30 hours annually in the last 12 years.[11] Table DR84-1 provides a summary of the BIP events and the number of hours of operation. The BIP is only called when CAISO determines a Stage 1, Stage 2, or Stage 3 emergency, or a transmission system contingency is needed to support the grid.

Table DR-84 Summary of PG&E BIP Events

Year	Sum of Hours	BIP Events
2009	2	1
2010	2	1
2011	2	2
2012	2	1
2013	8	2
2014	14	4
2015	8	3
2016	4	1
2017	3	2
2018	12	3
2019	8	3
2020	28	7
2021	2	1
Total	**95**	**31**

In a non-grid outage situation, PG&E will issue a dispatch notification to Microsoft and Enchanted Rock tc reduce load within the 30-minute timeframe. Enchanted Rock and Microsoft will coordinate operations to start up the generators and transfer the facility load from the grid to the generation within the required timeframe. During the BIP event, Microsoft load will be completely disconnected from the utility to run on natural gas generators. Once PG&E ends the BIP event, Enchanted Rock and Microsoft will coordinate a transition back to grid power.

In a situation where a BIP event is called and grid power has been lost, Microsoft will already be running on backup generation and will remain on backup generation until the BIP event is over and grid power is restored.

[10] https://www.pge.com/en_US/large-business/save-energy-and-money/energy-management-programs/demand-response-programs/base-inerruptible/base-inerruptible.page

[11] https://www.pge.com/en_US/large-business/save-energy-and-money/energy-management-programs/demand-response-programs/case-studies/case-studies.page

References:

Jacobs 2021y – Jacobs (Jacobs). (TN 240082). SJC Data Center Response to Data Request Set #6, dated October 15, 2021. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

Appendix C

Land Evaluation and Site Assessment

Appendix C: California Agricultural LESA Model Analysis

The California Agricultural Land Evaluation and Site Assessment (LESA) system provides a model to rate the relative value of agricultural land resources in the state. A LESA model is created for a property to define and measure two sets of factors. The "land evaluation" (LE) factors measure the inherent soil-based qualities of land as they relate to agricultural suitability. The "site assessment" (SE) factors measure social, economic, and geographic attributes that contribute to the overall value of agricultural land.

Energy Commission staff consulted with staff at the California Department of Conservation (CDOC) to receive guidance on how to determine the feasibility of irrigated and dryland agriculture on a site, and the existence of any physical or economic restrictions potentially influencing the feasibility of agricultural production (components of the "water resource availability score"). Evidence indicates that an overall economic restriction exists making farming the project site (and nearby areas within the City) infeasible for either irrigated or dryland production (CEC 2020d). The following table shows the results of the LESA model analysis conducted by staff for the San Jose City Data Center site.

SAN JOSE CITY DATA CENTER FINAL LESA SCORE SHEET

Factor	Factor Score		Factor Weight		Weighted Factor Score	
Land Evaluation (LE) Factors						
Land Capability Classification	60	x	0.25	=	15	
California Revised Storie Index	85.44	x	0.25	=	21.36	
LE subscore			*0.50*		*36.36*	
Site Assessment (SA) Factors						
Project size rating	70	x	0.15	=	10.5	
Water resources availability rating	0	x	0.15	=	0	
Surrounding agricultural land rating	0	x	0.15	=	0	
Protected resource land rating	0	x	0.05	=	0	
SA subscore			*0.50*		*10.5*	+
			Final LESA Score		**46.86** [1]	=
			Not Considered Significant (see footnote)			

Source: Based on CDOC instructional documents (CDOC 2011).

Data supporting staff's LESA model analysis were derived from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey tool (USDA 2020). The following table shows the results of the custom soil resource report for the project site and adjacent areas using the NRCS Web Soil Survey tool. The soil

1 According to LESA model scoring thresholds, a total score of 40 to 59 points is "considered significant *only* if LE and SA subscores are each greater than or equal to 20 points." As shown in the table above, the SA subscore is 10.5, which is below the 20-point threshold.

resource data contributed to determining the factor scores in the LESA model analysis, above.

DATA FROM NRCS CUSTOM SOIL RESOURCE REPORT	
Soil Unit, Class, Rating	**Description**
Soil Map Unit:	166 – Campbell silt loam, 0 to 2 percent slopes, protected (0.22 proportion of project site)
	168 – Elder fine sandy loam, protected, 0 to 2 percent slopes (0.78 proportion of project site)
Land Capability Classification (LCC) (nonirrigated):	IIIs – Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both. Subclass "s" denotes soils that have limitations within the rooting zone.
CA Revised Storie Index Rating Class & Value:	Campbell silt loam – Grade 1 Excellent, Value 87
	Elder fine sandy loam – Grade 1 Excellent, Value 85
Project size score:	Score of 70, based on the LCC Class III soils at the site.
Water resources availability rating:	Neither irrigated nor dryland production is economically feasible on the project site, resulting in a water resource score of zero.
Surrounding agricultural land rating:	No agricultural land surrounds the project site, resulting in a surrounding agricultural land score of zero.
Protected resource land rating:	19.9 percent protected resource land is present in the "zone of influence" adjacent to Coyote Creek, which is below the 40 percent threshold required to receive a score above zero.

Source: Data from custom soil resource report (USDA 2020). Calculation of protected resource land based on Energy Commission staff's GIS mapping.

References

CEC 2020d – California Energy Commission (CEC). (TN 232026). Report of Conversation with Kerri Kisko, California Department of Conservation, dated February 13, 2020. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

CDOC 2011 – California Department of Conservation (CDOC). Land Evaluation & Site Assessment (LESA) Model. 1997 Instruction Manual; Appendix A, CA Agriculture Worksheets and Appendix B, CA LESA Project Scoring Example, corrections to appendices made January 2011. Documents downloaded and used January and February 2020. Available online at: https://www.conservation.ca.gov/dlrp/Pages/qh_lesa.aspx

USDA 2020 – U.S. Department of Agriculture, Natural Resources Conservation Service (USDA). Web Soil Survey. Custom Soil Resource Report for Santa Clara Area, California, Western Part. Custom report created January 23, 2020. Available online at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Appendix D

Nitrogen Deposition Modeling

Appendix D: Nitrogen Deposition Modeling

Nitrogen deposition is the term used to describe the input of reactive nitrogen species from the atmosphere to the biosphere. The pollutants that contribute to nitrogen deposition derive mainly from oxides of nitrogen (NOx) and ammonia (NH_3) emissions.

These pollutants are deposited as "atmospherically derived nitrogen" (ADN), primarily nitric acid (HNO_3). The chemical conversion from NOx and NH_3 to ADN takes place in the atmosphere over a period of hours after the pollutants are discharged from their sources.

Staff modeled the potential nitrogen deposition impacts from operation of the proposed data center facility within a six-mile radius of the project site. This region includes Bay checkerspot butterfly critical habitat areas.

The annual NOx emissions and potential nitrogen deposition impacts are based on each natural gas generator operating up to 509 hours per year for load shedding, demand response and behind -the -meter resource adequacy (RA) ancillary services, and each administrative diesel generator operating up to 42 hours per year for maintenance and testing (Jacobs 2021o).

Emissions of NOx and NH3 emissions are conservatively estimated for the two administrative diesel generators because these engines would be equipped with selective catalytic reduction (SCR) to reduce the NOx emissions to meet Tier 4 emission standards. In contrast, staff assumes these two generators would emit at Tier 2 levels that do not reflect the partial NOx emission reduction that could be achieved after the SCR warms up and becomes fully effective. Staff also assumes that NH_3 emissions would occur as a result of urea usage in the SCR, although NH_3 would only occur after warmup of the SCR.

Staff used the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) to evaluate the potential nitrogen deposition impacts of the project. The model overestimates nitrogen deposition impacts with the following assumptions:

- One hundred percent of the NOx and NH_3 conversion to ADN within the stack rather than allowing the conversion to occur over distance and time. It ignores the fact that the conversion process requires sunlight, moisture, and time. It is unlikely that there would be sufficient time for all of the emitted NOx or NH_3 to convert to ADN within a six-mile radius of the project.
- Maximum settling velocities derived from the parameters for HNO_3 (which, of all the depositional species, has the most affinity for soils and vegetation and the tendency to adhere to what it is deposited on) to produce maximum, or conservatively estimated, deposition rates.

As stated above, staff's analysis of nitrogen deposition impacts is overly conservative. It overestimates the nitrogen deposition impacts expected from routine operations, including readiness testing and maintenance activities. In addition, the NOx emissions of the facility would be offset through the permitting process with the BAAQMD. The BAAQMD offsets would mitigate the project's effects on basin-wide nitrogen deposition.

References

Jacobs 2021o – Jacobs (Jacobs). (TN 239409). SJC Data Center SPPE Application Supplemental Filing Volume 1, dated August 20, 2021. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-SPPE-04

Appendix E

Mailing List

Appendix E: Mailing List

The following is the mailing list for the San Jose Data Center project.

The following is a list of the State agencies that received State Clearinghouse notices and documents:

- California Air Resources Board (ARB)
- California Department of Conservation (DOC)
- California Department of Fish and Wildlife, Marin Region 7 (CDFW)
- California Department of Parks and Recreation
- California Department of Transportation, District 4 (DOT)
- California Department of Water Resources (DWR)
- California Energy Commission
- California Governor's Office of Emergency Services (OES)
- California Highway Patrol (CHP)
- California Natural Resources Agency
- California Public Utilities Commission (CPUC)
- California Regional Water Quality Control Board, San Francisco Bay Region 2 (RWQCB)
- California State Lands Commission (SLC)
- Department of Toxic Substances Control, Office of Historic Preservation
- San Francisco Bay Conservation and Development Commission (BCDC)
- State Water Resources Control Board, Division of Drinking Water
- State Water Resources Control Board, Division of Water Quality
- California Native American Heritage Commission (NAHC)
- California Department of Fish and Wildlife, Bay Delta Region 3 (CDFW)

Table E-1 presents the list of occupants and property owners contiguous to the project site.

Table E-2 presents the list of property owners within 1,000 feet of the project site and 500 feet of the project linears.

Table E-3 presents the list of agencies, including responsible and trustee agencies and libraries.

Table E-4 presents the list of interested parties including environmental justice and community-based organizations.

TABLE E-1 OWNERS AND OCCUPANTS OF PROPERTY CONTIGUOUS TO PROJECT SITE				
Name	**Address**	**City**	**State**	**Zip**
OCCUPANT	4160 ZANKER RD	SAN JOSE	CA	95134
J R FILANC CONSTRUCTION COMPANY	4160 ZANKER RD	SAN JOSE	CA	95134
SOUTH BAY WATER RECYCLING	4160 ZANKER RD	SAN JOSE	CA	95134
CALPINE - LOS ESTEROS CRITICAL ENERGY FACILITY	810 THOMAS FOON CHEW WAY	SAN JOSE	CA	95134

TABLE E-2 PROPERTY OWNERS WITHIN 1,000 FEET OF PROJECT SITE AND 500 FEET OF LINEARS				
Name	**Address**	**City**	**State**	**ZIP**
CITY OF SAN JOSE	200 EAST SANTA CLARA STREET	SAN JOSE	CA	95113
OCCUPANT	175 NORTECH PKWY # PY	SAN JOSE	CA	95134-2310
BAYVP NORTECH PARKWAY LLC	25 CORNING AVE	MILPITAS	CA	95035
LAI CHENG	155 BAYTECH DR	SAN JOSE	CA	95134-2303
OCCUPANT	145 BAYTECH DR	SAN JOSE	CA	95134-2303
LINDSEY FAMILY LLC	18 CYPRESS AVE	KENTFIELD	CA	94904
OCCUPANT	4620 FORTRAN DR	SAN JOSE	CA	95134-2313
FORTRAN INVESTMENTS LP	792 MERIDIAN WAY, Ste A	SAN JOSE	CA	95126
ADDISON TECHNOLOGY INC	150 NORTECH PKWY # PY	SAN JOSE	CA	95134-2305
CITY OF SAN JOSE CITY	4235 ZANKER RD	SAN JOSE	CA	95134-1000
MICROSOFT CORPORATION	1 MICROSOFT WAY	REDMOND	WA	98052
S C V W D	5750 ALMADEN EXPY	SAN JOSE	CA	95118
MCCARTHY RICHARD I (TRUSTEE)	210 ALMENDRA AVE	LOS GATOS	CA	95030
CITY OF MILPITAS	455 E CALAVERAS BLVD	MILPITAS	CA	95035
OCCUPANT	4160 ZANKER RD	SAN JOSE	CA	95134-1002
S C V W D	5750 ALMADEN EXPY	SAN JOSE	CA	95118
PACIFIC GAS & ELEC CO	PO BOX 770000	SAN FRANCISCO	CA	94177
CITY OF SANTA CLARA	1500 WARBURTON AVE	SANTA CLARA	CA	95050
OCCUPANT	810 THOMAS FOON CHEW WAY	SAN JOSE	CA	95134
NORTH SAN JOSE ENERGY CENTER LLC	4160 DUBLIN BLVD	DUBLIN	CA	94568

TABLE E-2 PROPERTY OWNERS WITHIN 1,000 FEET OF PROJECT SITE AND 500 FEET OF LINEARS				
Name	**Address**	**City**	**State**	**ZIP**
ESTATE OF MC CARTHY RICHARD I (TRUSTEE) ET AL	210 ALMENDRA AVE	LOS GATOS	CA	95030
CITY OF SAN JOSE	700 LOS ESTEROS RD	SAN JOSE	CA	95134
CITY OF MILPITAS	3331 N 1ST ST, #B	SAN JOSE	CA	95134
OCCUPANT	11 RANCH DR	MILPITAS	CA	95035
TMS MCCARTHY LP	260 CALIFORNIA ST	SAN FRANCISCO	CA	94111
OCCUPANT	50 RANCH DR	MILPITAS	CA	95035-5103
IN N OUT BURGERS	4199 CAMPUS DR	IRVINE	CA	92612
OCCUPANT	12 RANCH DR	MILPITAS	CA	95035-5103
HOURET FAM LP	5570 SANCHEZ DR, Ste 230	SAN JOSE	CA	95123
OCCUPANT	30 RANCH DR	MILPITAS	CA	95035-5103
OCCUPANT	40 RANCH DR	MILPITAS	CA	95035-5103
LL MILPITAS, L P	591 W PUTMAN AVE	GREENWICH	CT	06830
IN N OUT BURGERS	13502 HAMBURGER LN	BALDWIN PARK	CA	91706
OCCUPANT	135 N MCCARTHY BLVD	MILPITAS	CA	95035-5102
CAMPUS 237 OWNER LLC	1301 SHOREWAY RD, Ste 250	BELMONT	CA	94002
OCCUPANT	155 N MCCARTHY BLVD	MILPITAS	CA	95035-5102
SANTA CLARA COUNTY TRANSIT DIST	SOUTHBAY FY	SAN JOSE	CA	95134
CITY OF MILPITAS	455 E CALAVERAS BLVD	MILPITAS	CA	95035
KLA-TENCOR CORPORATION	7 TECHNOLOGY DR	MILPITAS	CA	95035-7916
KLA-TENCOR CORPORATION	5 TECHNOLOGY DR	MILPITAS	CA	95035-7916
KLA-TENCOR CORPORATION	1 TECHNOLOGY DR	MILPITAS	CA	95035-7916
OCCUPANT	475 HOLGER WAY	SAN JOSE	CA	95134-1369
SIERRA VISTA APTS II	2043 W LINCOLN RD	STOCKTON	CA	95207
OCCUPANT	450 HOLGER WAY	SAN JOSE	CA	95134-1368
MICROCHIP TECHNOLOGY INCORPORATED,	2355 W CHANDLER BLVD	CHANDLER	AZ	85224

TABLE E-2 PROPERTY OWNERS WITHIN 1,000 FEET OF PROJECT SITE AND 500 FEET OF LINEARS				
Name	**Address**	**City**	**State**	**ZIP**
OCCUPANT	400 HOLGER WAY	SAN JOSE	CA	95134-1368
DCII 400 HOLGER WAY LLC,	4890 W KENNEDY BLVD, Ste 650	TAMPA	FL	33609
OCCUPANT	350 HOLGER WAY	SAN JOSE	CA	95134-1362
KBSII CORPORATE TECHNOLOGY CENTRE LLC	PO BOX 28270	SANTA ANA	CA	92799
OCCUPANT	300 HOLGER WAY	SAN JOSE	CA	95134-1362
OCCUPANT	250 HOLGER WAY	SAN JOSE	CA	95134-1300
SANTA CLARA COUNTY TRANSIT DIST	3331 North 1st St.	SAN JOSE	CA	95134
OCCUPANT	150 ROSE ORCHARD WAY	SAN JOSE	CA	95134-1358
DRAWBRIDGE ROSE ORCHARD LLC, Ste 2310	3 EMBARCADERO CTR	SAN FRANCISCO	CA	94111
NICHOLSON FAMILY PARTNERSHIP	300 NICHOLSON LN	SAN JOSE	CA	95134
NICHOLSON FAMILY PARTNERSHIP	2 N RIVERSIDE PLZ STE 800	CHICAGO	IL	60606

TABLE E-3 AGENCIES AND LIBRARIES							
First Name	**Last Name**	**Title**	**Agency**	**Address**	**City**	**State**	**Zip**
ADAM	PETERSEN	PLANNER	SAN JOSE PLANNING DIVISION	200 EAST SANTA CLARA STREET	SAN JOSE	CA	95113
DAVID	KEYON	PRINCIPAL PLANNER	SAN JOSE PLANNING, BUILDING & CODE ENFORCEMENT (PBCE)	200 EAST SANTA CLARA STREET	SAN JOSE	CA	95113
			BAY AREA AIR QUALITY MANAGEMENT DISTRICT	375 BEALE STREET, SUITE 600	SAN FRANCISCO	CA	94105
ARIANA	HUSAIN	PRINCIPAL AIR ENGINEER	BAY AREA AIR QUALITY MANAGEMENT DISTRICT	375 BEALE STREET, SUITE 600	SAN FRANCISCO	CA	94105
KATHRIN A.	TURNER	ASSISTANT ENGINEER II	SANTA CLARA VALLEY WATER DISTRICT	5750 ALMADEN EXPRESSWAY	SAN JOSE	CA	95118-3614
GREG	ERICKSON	REGIONAL MANAGER	CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE	2825 CORDELIA ROAD SUITE 100	FAIRFIELD	CA	94534
GERRY	HAAS	CONSERVATION PLANNER	SANTA CLARA VALLEY HABITAT AGENCY	535 ALKIRE AVENUE	MORGAN HILL	CA	95037

TABLE E-3 AGENCIES AND LIBRARIES							
First Name	**Last Name**	**Title**	**Agency**	**Address**	**City**	**State**	**Zip**
RYAN	OLAH	DIVISION CHIEF	US FISH & WILDLIFE SERVICE, SACRAMENTO FISH & WILDLIFE OFFICE, COAST BAY DIVISION	2800 COTTAGE WAY, ROOM W2605	SACRAMENTO	CA	95825 -1846
REBECCA	FANCHER		CALIFORNIA AIR RESOURCES BOARD	1001 I ST	SACRAMENTO	CA	95814
COURTNEY	GRAHAM		CALIFORNIA AIR RESOURCES BOARD	1001 I ST	SACRAMENTO	CA	95814
SIMON	BAKER	DIRECTOR, ENERGY DIVISION	CALIFORNIA PUBLIC UTILITIES COMMISSION	505 VAN NESS AVENUE	SAN FRANCISCO	CA	94102
BINAYA	SHRESTHA	SUBJECT MATTER EXPERT, PG&E	CALIFORNIA INDEPENDENT SYSTEM OPERATOR	250 OUTCROPPING WAY	FOLSOM	CA	95630
NED	THOMAS	PLANNING DIRECTOR	CITY OF MILPITAS PLANNING AND NEIGHBORHOOD SERVICES	455 EAST CALAVERAS BLVD.	MILPITAS	CA	95035
SYLVIA	FUNG		IGR, CALTRANS, DISTRICT 4	P.O. BOX 23660	OAKLAND	CA	94623 -0660
KEITH	LICHTEN	REGIONAL PROGRAM LEAD	SAN FRANCISCO BAY RWQCB	1515 CLAY SUITE 1400	OAKLAND	CA	94612
JULIE	PETTIJOHN	ACTING BRANCH CHIEF	DEPT. OF TOXIC SUBSTANCES CONTROL, REGION 2	700 HEINZ AVENUE SUITE 200	BERKELEY	CA	94710 -2721
			SAN FRANCISCO BAY CONSERVATION & DEVELOPMENT COMMISSION	375 BEALE STREET, SUITE 510	SAN FRANCISCO	CA	94105
JON	CICIRELLI		SAN JOSE PARKS, RECREATION AND NEIGHBORHOOD SERVICES	200 EAST SANTA CLARA STREET	SAN JOSE	CA	95113
		FIRE CHIEF	SAN JOSE FIRE DEPARTMENT	1661 SENTER RD.	SAN JOSE	CA	95112
EDGARDO (EDDIE)	GARCIA	CHIEF OF POLICE	SAN JOSE POLICE DEPARTMENT	201 W. MISSION STREET	SAN JOSE	CA	95110
MANJIT	BANWAIT	SENIOR TRANSPORTATION SPECIALIST	SAN JOSE DEPARTMENT OF TRANSPORTATION	200 EAST SANTA CLARA STREET	SAN JOSE	CA	95113

TABLE E-3 AGENCIES AND LIBRARIES							
First Name	**Last Name**	**Title**	**Agency**	**Address**	**City**	**State**	**Zip**
RYAN	DO		SAN JOSE PUBLIC WORKS	200 EAST SANTA CLARA STREET	SAN JOSE	CA	95113
KERRY	ROMANOW		SAN JOSE ENVIRONMENTAL SERVICES	200 EAST SANTA CLARA STREET 10TH FLOOR TOWER	SAN JOSE	CA	95113
CHERISE	ORANGE	ASSOCIATE PLANNER	COUNTY OF SANTA CLARA PARKS AND RECREATION DEPARTMENT	298 GARDEN HILL DRIVE	LOS GATOS	CA	95032-7669
KERRI	KISKO	ENVIRONMENTAL SCIENTIST	DEPARTMENT OF CONSERVATION	801 K STREET, MS 24-01	SACRAMENTO	CA	95814
WADE	CROWFOOT	SECRETARY	NATURAL RESOURCES AGENCY	1416 NINTH STREET, SUITE 1311	SACRAMENTO	CA	95814
PHILLIP	CRADER		STATE WATER RESOURCES CONTROL BOARD, WATER QUALITY DIVISION	P.O. BOX 100	SACRAMENTO	CA	95812-0100
ALYSON	AQUINO		NATURAL RESOURCES CONSERVATION SERVICES	3585 GREENVILLE ROAD SUITE 2	LIVERMORE	CA	94550-6707
KARLA	NEMETH	DIRECTOR	DEPARTMENT OF WATER RESOURCES	P.O. BOX 942836	SACRAMENTO	CA	94236-0001
			COUNTY OF SANTA CLARA, OFFICE OF THE CLERK RECORDER	70 WEST HEDDING STREET	SAN JOSE	CA	95110
LAURA	MIRANDA	COMMISSIONER	NATIVE AMERICAN HERITAGE COMMISSION	1550 HARBOR BLVD, SUITE 100	WEST SACRAMENTO	CA	95691
			CEC - ENERGY LIBRARY	715 P STREET, 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

TABLE E-3 AGENCIES AND LIBRARIES							
First Name	**Last Name**	**Title**	**Agency**	**Address**	**City**	**State**	**Zip**
		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 FLOOR	SACRAMENTO	CA	95814
			ALVISO BRANCH LIBRARY	5050 N FIRST STREET	SAN JOSE	CA	95002
			MILPITAS LIBRARY	160 N MAIN STREET	MILPITAS	CA	95035

TABLE E-4 INTERESTED PARTIES INCLUDING ENVIRONMENTAL JUSTICE AND COMMUNITY-BASED ORGANIZATIONS						
First Name	**Last Name**	**Organization**	**Address**	**City**	**State**	**Zip**
CAROL	ZABIN	CENTER FOR LABOR RESEARCH AND EDUCATION (LABOR CENTER)	2521 CHANNING WAY #5555	BERKELEY	CA	94704
		EVERGREEN ECONOMICS	1648 MARTIN LUTHER KING JR. WAY	BERKELEY	CA	94709
		CALIFORNIANS FOR PESTICIDE REFORM (CPR)	2029 UNIVERSITY AVE., SUITE 200	BERKELEY	CA	94704
AMY D.	KYLE	UC BERKELEY, SCHOOL OF PUBLIC HEALTH	140 WARREN HALL	BERKELEY	CA	94720
JULIA	HATTON	RISING SUN ENERGY CENTER	111 36TH STREET	OAKLAND	CA	94608
BROOKS	ANDREW	ASSOCIATION FOR ENERGY AFFORDABILITY	5900 HOLLIS STREET, SUITE R2	EMERYVILLE	CA	94608
		SAN MATEO COUNTY UNION COMMUNITY ALLIANCE (SMCUCA)	1153 CHESS DR.	FOSTER CITY	CA	94404
		COMMUNITIES FOR A BETTER ENVIRONMENT	6325 PACIFIC BLVD. STE 300	HUNTINGTON PARK	CA	90255
LEVONNE	STONE	FORT ORD ENVIRONMENTAL JUSTICE NETWORK, INC.	PO BOX 361	MARINA	CA	93933
		ASIAN PACIFIC ENVIRONMENTAL NETWORK	426 17TH ST #500	OAKLAND	CA	94612
STEPHANIE	CHEN	GREENLINING INSTITUTE	360 14TH STREET, 2ND FLOOR	OAKLAND	CA	94612

TABLE E-4 INTERESTED PARTIES INCLUDING ENVIRONMENTAL JUSTICE AND COMMUNITY-BASED ORGANIZATIONS						
First Name	**Last Name**	**Organization**	**Address**	**City**	**State**	**Zip**
		LOCAL INITIATIVES SUPPORT CORPORATION (LISC) BAY AREA	1970 BROADWAY SUITE 1100	OAKLAND	CA	94612
		GRID ALTERNATIVES	1171 OCEAN AVENUE, SUITE 200	OAKLAND	CA	94608
STRELA	CERVAS	CALIFORNIA ENVIRONMENTAL JUSTICE ALLIANCE	1904 FRANKLIN STREET, STE. 250	OAKLAND	CA	94612
MIA	KITAHARA	STOPWASTE	1537 WEBSTER ST.	OAKLAND	CA	94612
		CENTER FOR BIOLOGICAL DIVERSITY (CBD)	1212 BROADWAY, ST. #800	OAKLAND	CA	94612
		THE PEOPLE'S SENATE	1999 HARRISON STREET, SUITE 650	OAKLAND	CA	94612
		CENTER ON RACE, POVERTY AND ENVIRONMENT (CRPE)	1999 HARRISON STREET, SUITE 650	OAKLAND	CA	94612
		THE EAST OAKLAND COLLECTIVE	PO BOX 5382	OAKLAND	CA	94605
BOB	ALLEN	URBAN HABITAT PROGRAM	2000 FRANKLIN STREET	OAKLAND	CA	94612
		UNION OF CONCERNED SCIENTISTS	500 12TH STREET, SUITE 340	OAKLAND	CA	94607
		PEOPLE UNITED FOR A BETTER OAKLAND (PUEBLO)	1728 FRANKLIN STREET	OAKLAND	CA	94612
SUSANNAH	CHURCHILL	VOTE SOLAR	360 22ND STREET, SUITE 730	OAKLAND	CA	94612
JAYANT	KAIRAM	ENVIRONMENTAL DEFENSE FUND	1107 9TH ST., STE 1070	SACRAMENTO	CA	95814
		ENVIRONMENTAL DEFENSE FUND	123 MISSION ST, 28TH FLOOR	SAN FRANCISCO	CA	94105
		LITERACY FOR ENVIRONMENTAL JUSTICE	P.O. BOX 170039	SAN FRANCISCO	CA	94117-0039
BRADLEY	ANGEL	GREENACTION	315 SUTTER STREET, 2ND FL	SAN FRANCISCO	CA	94108
		BLUEGREEN ALLIANCE	369 PINE STREET, SUITE 700	SAN FRANCISCO	CA	94104
MARIA	STAMAS	NATURAL RESOURCES DEFENSE COUNCIL (NRDC)	111 SUTTER STREET, 21ST FLOOR	SAN FRANCISCO	CA	94104
EDDIE	AHN	BRIGHTLINE DEFENSE	1028A HOWARD STREET	SAN FRANCISCO	CA	94103
JENNIFER	BERG	ASSOCIATION OF BAY AREA GOVERNMENTS (ABAG)	375 BEALE STREET, SUITE 700	SAN FRANCISCO	CA	94105-2066
IVAN	JIMENEZ	BRIGHTLINE DEFENSE	1028A HOWARD STREET	SAN FRANCISCO	CA	94103

TABLE E-4 INTERESTED PARTIES INCLUDING ENVIRONMENTAL JUSTICE AND COMMUNITY-BASED ORGANIZATIONS						
First Name	**Last Name**	**Organization**	**Address**	**City**	**State**	**Zip**
ERICA	MCCONNELL	SHUTE, MIHALY & WEINBERGER LLP	396 HAYES ST.	SAN FRANCISCO	CA	94102
ANTONIO	DIAZ	PEOPLE ORGANIZING TO DEMAND ENVIRONMENTAL AND ECONOMIC RIGHTS (PODER)	474 VALENCIA STREET, #125	SAN FRANCISCO	CA	94103
		ENVIRONMENTAL LAW AND JUSTICE CLINIC	536 MISSION STREET	SAN FRANCISCO	CA	94105
		BAYVIEW HUNTERS POINT COMMUNITY ADVOCATES (KAREN PIERCE)	186 MADDUX AVENUE	SAN FRANCISCO	CA	94124
		SILICON VALLEY TOXICS COALITION	PO BOX 27669	SAN FRANCISCO	CA	94127
		SANTA CLARA VALLEY AUDUBON SOCIETY (SCVAS)--MCCLELLAN RANCH PRESERVE	22221 MCCLELLAN ROAD	CUPERTINO	CA	95014
		LOMA PRIETA SIERRA CLUB CHAPTER OFFICE	39821 EAST BAYSHORE ROAD, SUITE 204	PALO ALTO	CA	94303
MARK T.	ESPINOZA	PRESIDENT ORGANIZACIÓN COMUNIDAD DE ALVISO	P.O. BOX 1301	ALVISO	CA	95002
ADA E.	MÁRQUEZ	SAN JOSE STATE UNIVERSITY, DEPT. OF ENVIRONMENTAL STUDIES	1 WASHINGTON SQUARE HALL, WSQ 118	SAN JOSE	CA	95192-0115