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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 specific to recreation.

RECREATION Would the project:	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 would be in the city of Santa Clara (city) within Santa Clara County. The 6.69-acre project site is currently developed with an office and warehouse building and is zoned Light Industrial (ML). Adjacent uses are designated by the city as industrial and research and development uses (Santa Clara 2021).

The project would require a large, temporary construction workforce and a small, permanent operation workforce. Phase I of construction would occur over a 14-month period and would require an average of approximately 100 workers per month with a peak number of approximately 150 workers per month (Vantage 2021a). Phase II of construction would occur over an 11-month period and would require an average of approximately 80 workers per month with a peak number of approximately 200 workers per month. During operation, approximately 10 to 14 employees would be onsite daily, with a total permanent workforce of approximately 19 to 21 employees (Vantage 2021b).

Recreation Facilities

The city owns and maintains 497 acres of parks and recreation facilities, which include one community park, three mini parks, 24 neighborhood parks, three city-designated public open spaces, and 16 recreation facilities (i.e., sports fields, skate park, swimming pools/centers, senior center, and youth center) (Santa Clara 2010). The recreation site nearest to the project is Bracher Park, a 3.5-acre neighborhood park located approximately 170 feet southwest of the project site, albeit in another neighborhood. Bracher Park is physically separated from the project site by an existing Caltrain railroad right-of-way and is not directly accessible from the project site. The entrance to Bracher

Park is approximately one mile from the project site via the local street network. There are no parks or recreation facilities within one mile of the project site.

Regulatory Background

Federal

No federal regulations related to recreation apply to the project.

State

No state regulations related to recreation apply to the project.

Local

City of Santa Clara General Plan. The City of Santa Clara 2010-2035 General Plan (General Plan) describes goals and policies for the city to actively seek additional park and open space as residential and employment populations increase (Santa Clara 2010). The General Plan's implementation policies are designed to maintain a standard ratio of 2.4 acres of parkland per 1,000 residents. Staff identified the following applicable recreation policy:

- 5.9.1-P7 – Allow new parks in the general locations shown on the Land Use Diagram in all General Plan designations, except in areas designated for Light and Heavy Industrial uses.

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. The city of Santa Clara is a self-identified employment hub, with approximately 70 percent of employees commuting from residences outside of the city's jurisdiction (Santa Clara 2010). As discussed in section **4.14 Population and Housing**, the anticipated construction workforce for the project 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 unlikely to temporarily relocate closer to the project site or utilize nearby parks or recreation facilities. In certain instances where construction workers do temporarily relocate for their employment, they by and large return to their community on the weekends and therefore recreate closer to home. Thus, the project would not increase the use of or accelerate

1 Region in this instance is the Metropolitan Statistical Area. A Metropolitan Statistical Area is a geographical area with a population of 50,000 or more, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties (EDD 2021).

the physical deterioration of a recreation site. The project would have no impact on parks and recreation facilities within the city.

Operation

Less Than Significant Impact. The project would employ a small number of permanent employees (i.e., approximately 20). Given the availability of an existing workforce throughout the greater Bay Area, it is likely that the project's permanent employees currently reside within commuting distance of the project site and would not need to relocate closer to the project. If employees were to move closer to the project, this small increase in population would not create a notable increase in the use of an existing park or recreation facility. Furthermore, the project would not contribute to a substantial physical deterioration of a park or recreation facility. Impacts to city parks and recreation facilities would be less than significant.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Construction

No Impact. Recreation facilities are not included as part of the project, and the project would not require the construction or expansion of a recreation facility. As described in the City's General Plan Policy 5.9.1-P7, new park facilities are not allowed in areas designated for Light Industrial uses, which would include the project site. Construction of the project would have no impacts to a recreation facility.

Operation

No Impact. The project's small operational workforce (i.e., approximately 20 employees) would not create a demand for recreational facilities that would require the construction of new facilities or the expansion of existing facilities. The operation of the project would have no impact on recreation facilities.

4.16.3 Mitigation Measures

None.

4.16.4 References

Santa Clara 2010 – City of Santa Clara (Santa Clara). *City of Santa Clara General Plan 2010-2035*. Adopted on November 16, 2010. Chapter 3, pg. 3-18; Chapter 5.9; Appendix 8, pgs. 8.8-3 to 8.8-5. Accessed on June 29, 2021. Available online at: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan

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EDD 2021 – State of California Employment Development Department (EDD). LMI for San Jose-Sunnyvale-Santa Clara MSA, California. Accessed on June 29, 2021. Available online at: https://www.labormarketinfo.edd.ca.gov/geography/msa/san-jose-sunnyvale-santa-clara.html

Vantage 2021a – Vantage Data Centers, LLC. (Vantage). Application for Small Power Plant Exemption: CA3 Backup Generating Facility Part I (TN 237423), April 2021. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-SPPE-01

Vantage 2021b – Vantage Data Centers, LLC. (Vantage). Application for Small Power Plant Exemption: CA3 Backup Generating Facility Part II (TN 237423), April 2021. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-SPPE-01

4.17 Transportation

This section describes the environmental setting and regulatory background and discusses impacts specific to transportation associated with the 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 site is at 2590 Walsh Avenue in Santa Clara, California. The site is currently developed with an approximately 115,000-square-foot single-story office and warehouse building and associated paved surface parking and loading dock. Numerous freeways, including U.S. Highway 101 (US-101) and Interstates 680, 280, and 880, provide regional access to the Santa Clara area. Local access to the project area is provided by both Bowers Avenue and San Tomas Expressway, which connect directly to US-101 approximately one mile north of the project site. Both of these local roadways connect to Walsh Avenue, which provides direct access to the project site.

Transportation infrastructure on Walsh Avenue between Bowers Avenue and San Tomas Expressway (where the project site is located) is limited to four travel lanes with a dedicated center turn lane and pedestrian sidewalks on both sides of the road. Because Walsh Avenue is a short connector road serving the various industrial and commercial uses that are located along this segment, there are no designated bicycle lanes (VTA 2021a) and minimal roadway shoulder exists.

Public transit service to the project area includes regional light rail (provided by Caltrain) and local light rail and local bus transport (provided by the Santa Clara Valley Transportation Agency [VTA]). The nearest transit hub to the project is the Caltrain Lawrence Station, located approximately 1.2 miles west of the project site on Lawrence

Expressway. Lawrence Station is part of the regional Caltrain commuter rail system and is one of 32 stations serving the San Francisco Peninsula. From Lawrence Station, the Caltrain regional light rail connects to the VTA local light rail system at the San Jose Diridon Station, which is in downtown San Jose approximately 6 miles southeast of the Lawrence Station. The San Jose Diridon Station is served by the VTA Green local rail line, Amtrak, and the ACE Train (VTA 2021b).

From the Lawrence Station, the Caltrain regional light rail connects to local bus transport at the Santa Clara Transit Center approximately 3.5 miles southeast. The Santa Clara Transit Center is served by VTA local Bus Route 21, which connects 1,250 feet to the south on Monroe Street (VTA 2021c). VTA Bus Route 21 stops at Monroe Street and San Tomas Creek, which is the closest bus stop to the project (VTA 2021c). From this stop, the project site is approximately 3,500 feet to the north. Direct public transit access is not available to the project site.

The closest airport to the project site is the Norman Y. Mineta San Jose International Airport (San Jose International Airport), with the nearest runway located 1.75 miles east of the project site.

Regulatory Background

Federal

Code of Federal Regulations (14 CFR §77.5 et. seq). Under federal law, 14 CFR § 77.9(a), notification is required to be sent to the Federal Aviation Administration (FAA) for any construction or alterations exceeding 200 feet above ground level (AGL) (CFR 2021a). If a project's height, including any temporary equipment (such as cranes used during construction) or any ancillary structures (such as transmission poles or roof spires), exceeds 200 feet AGL, the project applicant must submit a copy of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA. The FAA then reviews the project to determine any potential hazards to navigable airspace.

Where a project is located within a horizontal distance of 20,000 feet from a public or military airport where at least one runway is more than 3,200 feet in length, 14 CFR § 77.9(b) also requires FAA notification of any construction or alteration of greater height than an imaginary surface extending outward and upward at a slope of 100 to 1 (CFR 2021a). Because San Jose International Airport has a runway exceeding this length and is located 1.75 miles (9,240 feet) east of the project site, 14 CFR § 77.9(b) requires notification be sent to the FAA for any temporary or permanent features that exceed 92.4 feet in height AGL.

State

California Department of Transportation. Project construction activities that require the movement of oversized or excessive load vehicles on state roadways require a transportation permit issued by the California Department of Transportation under Vehicle Code, section 35780 (Caltrans).

Local

City of Santa Clara 2021-2035 General Plan. The City of Santa Clara 2010-2035 General Plan (General Plan) includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects within the city. While a number of General Plan policies pertain to city efforts to enhance the overall multimodal transportation system, the following policies are specific to new development and are assumed applicable to the proposed project (Santa Clara 2010):

- **Policy 5.8.3-P8**: Require new development to include transit stop amenities, such as pedestrian pathways to stops, benches, traveler information and shelters.
- **Policy 5.8.3-P9**: Require new development to incorporate reduced onsite parking and provide enhanced amenities, such as pedestrian links, benches and lighting, in order to encourage transit use and increase access to transit services.
- **Policy 5.8.3-P10**: Require new development to participate in public/private partnerships to provide new transit options between Santa Clara residences and businesses.
- **Policy 5.8.4-P7**: Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with city standards, including new developments in employment areas.
- **Policy 5.8.5-P1**: Require new development and city employees to implement transportation demand management programs that can include site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.
- **Policy 5.8.5-P2**: Require development to offer on-site services, such as ATMs, dry cleaning, exercise rooms, cafeterias, and concierge services, to reduce daytime trips.
- **Policy 5.8.5-P3**: Encourage all new development to provide on-site bicycle facilities and pedestrian circulation.
- **Policy 5.8.5-P4**: Encourage new development to participate in shuttle programs to access local transit services within the city, including buses, light rail, Bay Area Rapid Transit, Caltrain, Altamont Commuter Express Yellow Shuttle and Lawrence Caltrain Bowers/Walsh Shuttle services.

City of Santa Clara, Transportation Analysis Policy. The city of Santa Clara approved their Transportation Analysis Policy on June 23, 2020. This policy establishes requirements for evaluating transportation impacts under the California Environmental Quality Act (CEQA) using the Vehicle Miles Traveled (VMT) methodology. The policy includes VMT baselines, thresholds, as well as criteria for exempting certain types of land use projects from VMT analysis. The policy also formalizes Transportation Operational Analysis (TOA) requirements that occur outside of CEQA.

With respect to VMT analyses under CEQA, the Transportation Analysis Policy establishes the following requirements that are applicable to the proposed project (Santa Clara 2020):

- Evaluating VMT. To evaluate whether a project will have a significant impact under CEQA, the city policy states that projects that result in a change of use to an existing development (which is applicable to the proposed project) are presumed to have a less than significant impact per state guidance and will not require a VMT analysis should the following criterion, among other possible criteria, be met:

  - Small Projects (generating 110 daily trips or less)

  Projects that are considered a change of use to an existing development but do not meet the above small project requirement, among others, are required to evaluate and disclose potential VMT environmental impacts with the established threshold criteria outlined in the city's Transportation Analysis Policy.

Santa Clara County Airport Land Use Commission's Comprehensive Land Use Plan for San Jose International Airport. San Jose International Airport is located 1.75 miles east of the project site. However, the project site is not within the airport's area of influence or within noise hazard areas identified in the Santa Clara County Comprehensive Land Use Plan (CLUP) (Santa Clara County 2016). Figure 6 of the CLUP identifies the Federal Aviation Regulations (FAR) Part 77 of Title 14 of the Code of Federal Regulations obstruction surfaces around the airport. An exceedance of these structure elevations could result in the obstruction of airspace and create hazards to aircraft entering or exiting the airport. The project site is located within the CLUP surface elevation threshold of 212 feet above mean sea level (MSL); meaning any structures at the project site exceeding 212 feet above MSL could pose a safety hazard (Santa Clara County 2016). The project site surface is 42 feet above sea level. Therefore, according to Figure 6 of the CLUP, any structure greater than 170 feet in height AGL may pose a safety hazard.

4.17.2 Environmental Impacts

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Construction

Less Than Significant Impact. Construction of the project 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 exception of extending an existing recycled water line from the intersection of Walsh Avenue and Northwestern Parkway (approximately 500 feet east of the project site) to the site for secondary water needs. While this construction would require temporary lane blockages/closures on Walsh Avenue during daytime hours, it would not interfere with a designated bike lane or transit route, as none exist on the affected portion of Walsh

Avenue. Furthermore, Walsh Avenue has four travel lanes. Temporary construction associated with connecting the project site to the existing buried recycled water line is not anticipated to disrupt more than one travel lane at a time. This would ensure at least one travel lane remains open in each direction. Project construction would not otherwise temporarily or permanently alter any public roadways or intersections.

The city of Santa Clara, as the permitting agency, would ensure the project applicant obtains the proper encroachment permit to minimize disruption to Walsh Avenue during construction. Furthermore, the city of Santa Clara, as the permitting agency, would require the applicant to obtain any required permits from Caltrans for the movement of oversized or excessive load vehicles on state roadways prior to construction to reduce effects on the state transportation network. The permitting process ensures that all applicable requirements are complied with. Therefore, the construction of the project 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. As discussed, the segment of Walsh Avenue containing the project site does not contain any pedestrian, bicycle, or public transit facilities. Additionally, the project would not interfere with any future pedestrian, bike, or transit plans for the area. The city of Santa Clara, as the permitting agency, would determine any transportation demand management (TDM) activities or conditions of approval necessary for the project to be consistent with General Plan Policies 5.8.3-P8, 5.8.3-P9, 5.8.3-P10, 5.8.4-P6, 5.8.4-P7, 5.8.5-P1, 5.8.5-P2, 5.8.5-P3, and 5.8.5-P4 (discussed under the "Regulatory Background" heading of this section). These policies are intended to improve multimodal accessibility between land uses and to facilitate the use of non-vehicular travel. For these reasons, operation of the project 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.

b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

CEQA Guidelines section 15064.3, subdivision (b), states that VMT is the most appropriate measure of transportation impacts under CEQA. 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 a 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.

Construction

Less Than Significant Impact. For construction traffic, a qualitative analysis of VMT impacts (instead of a more detailed quantitative analysis) is often appropriate (see CEQA Guidelines section 15064.3, subdivision (b)(3)). Project construction would involve a temporary increase in vehicle trips resulting from workers commuting to the project site and the delivery and hauling of project materials.

Construction would occur in two separate phases. Phase I activities, involving the building shell, substation and switchyard, site work, and paving, are anticipated to begin in January 2022 and take approximately 14 months to complete. Phase I would include a construction workforce with a peak number of workers of approximately 150 per month and an average of approximately 100 per month. Phase II construction, involving the interior fit out and appointments, would begin as soon thereafter as feasible, likely in late 2023 and take approximately 11 months to complete for commercial operation at the beginning of 2025. The Phase II construction workforce is estimated to have a peak number of workers of approximately 200 per month with an average of approximately 80 per month.

Based on the construction details provided above, the average construction workforce is estimated to be 90 persons per day, with a peak estimated to be 175 for both phases. Similar to other recent data center projects, the daily trip rates for employees at a general light industrial facility were used to estimate construction worker trips. The Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, has a trip generation rate for general light industrial land uses (land use code 110) of 3.05 daily one-way trips per employee (ITE 2021).

Project construction is estimated to generate an average of 275 (i.e., 3.05 daily one-way trips X 90 workers = 275) daily one-way worker commute trips. The peak construction interval is estimated to involve a maximum of 534 (i.e., 3.05 daily one-way trips X 175 workers = 534) daily one-way worker commute trips. Many of the construction worker trips would be expected to occur prior to the morning and evening peak traffic hours in the Santa Clara region, in accordance with typical construction schedules. Truck trips associated with the removal and delivery of equipment and materials would occur throughout the day and would be scheduled for off-peak regional traffic hours whenever possible. The preparation of the site would include grading the entire site. It is possible that up to 10,000 cubic yards of soil and undocumented fill would be removed from the site but can be part of a balanced cut and fill approach. However, based on experience at other sites, if all the material cannot be used on site, it is estimated that the undocumented fill could be transported from the site with a frequency average of about 25 trucks per day.

As assumed in **Section 4.14 Population and Housing**, it is expected that workers would be from the greater Bay Area and the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area has a local workforce available to serve the project. While some construction truck trips may require slightly higher VMT to access the project site, such

trips would likely only be necessary to deliver specialized equipment and materials that may not be readily available locally. The construction contractor and project owner would likely look for opportunities to reduce the distance of material delivery and removal trips, as longer distances increase construction costs. Therefore, construction is not expected to result in unnecessary VMT.

Upon the completion of construction, all temporary worker commute trips and truck trips would cease. As such, project-related construction trips would not result in a substantial or sustained increase in VMT compared to Santa Clara County average VMT. Further, construction trips would not result in temporary emissions increases at levels that could obstruct the implementation of plans and policies related to the reduction of greenhouse gas emissions by reducing VMT. Refer to **Section 4.3 Air Quality** for information related to exhaust emissions during construction. For these reasons, project construction would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

Operation

Less Than Significant Impact. The data center would be operational 24-hours, 7-days a week. **Table 4.17-1** summarizes the anticipated headcount of personnel and visitors that would be on-site throughout a typical day.

TABLE 4.17-1. ANTICIPATED AVERAGE DAILY HEADCOUNT

Type	Daily Persons	Persons Per Shift
Data Center Operations	14	2-9[1]
Security	5	2-5[2]
Janitor	2	1-2
Tenant Personnel	10-12	10-12
Visitors	2	2
TOTAL	**33-35**	**17-30**

1 Operational staff would work in three shifts: Day Shift (9 employees), Swing Shift (3 employees), and Graveyard Shift (2 employees)

2 There would be 2 security staff stationed at the building and 3 shift rovers that patrol the proposed project building and other nearby Vantage sites.

Source: Kimley Horn 2021

Operation trips would be generated by the 33-35 employees at the building throughout the day, with 17-30 employees in the building at the same time (Kimley Horn 2021). It should be noted that some personnel would be shared with other Vantage data center sites within the area and may park at the other sites. In addition, trips associated with rented office space workers would also occur.

The trip generation was determined based on average rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. This manual provides trip rates based on land use. For the project, ITE Land Use 160: Data Center was used, which estimates 0.99 one-way trips would occur for every 1,000 square feet of data center land use. Based on a transportation operational analysis conducted for the proposed project, it is estimated that the project would generate a total of 467 daily worker one-way trips ([472,180 total square feet/1,000] x 0.99). Of these total 467 daily

one-way trips, the analysis shows 52 trips occurring in the morning peak hours (7:00–9:00 a.m.) and 42 trips occurring in the afternoon peak hours (4:00–6:00 p.m.) (Kimley Horn 2021).

The VTA in conjunction with Santa Clara County and the cities in the county developed the Santa Clara Countywide VMT Evaluation Tool. This tool allows local government staff, consultants, and new developments to measure VMT for land use projects within Santa Clara County. Based on this tool, the target VMT for the project is 15 percent below the county average, which results in project-related commute trips needing to be no more than 14.14 daily vehicle miles per worker (Kimley Horn 2021). This threshold and the following analysis was reviewed and approved by the city of Santa Clara (Kimley Horn 2021).

Table 4.17-2 shows the VMT analysis conducted for the project. As shown, the project under a normal 5-day workweek schedule would exceed the VMT threshold. However, when the workweek schedule is shifted to a 4-40 (four days a week, 10-hour workdays), the project's VMT would reduce to below the threshold.

Table 4.17-2. VTA VMT ESTIMATION

VMT Threshold and Scenario	**VMT Per Worker**	***Exceed 14.14 VMT Threshold?***
Santa Clara County Average VMT	16.64	
Project Threshold: 15% Below County Average	14.14	
Estimated Project VMT (5-Day Work Schedule)	15.53	*YES*
Estimated Project VMT (4-40 Work Schedule)	13.20	*NO*

Source: Kimley Horn 2021

To meet the target VMT for the project, the applicant has proposed an alternative work schedule for employees reflecting a 4-40 workweek (40 hours in 4 days) so that the project VMT would be below the city's threshold. This is a Transportation Demand Management (TDM) measure, which is the commitment to a 4-40 work schedule. Staff evaluated the measure in the context of impacts to VMT and concludes that the requirement defined in this TDM measure is sufficient. This TDM measure would reduce the project VMT to 13.20 per employee, causing the project VMT to fall below the city-approved threshold of 14.14. The city requires a TDM annual report, which would allow it to obtain confirmation that the 4-day, 40-hour work schedule has been complied with. Staff proposes **TRANS-1**, which would require the implementation of a TDM program that incorporates the 4-40 work schedule TMD measure.

Additionally, the city of Santa Clara, as the permitting agency for the project, would ensure project consistency with the General Plan policies related to trip reduction, transit connectivity, and alternative modes of transportation (as provided in Section 4.17.1, Local Regulatory Background). Therefore, with implementation of **TRANS-1**, the project would have a less-than-significant impact on VMT.

c. 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. As discussed under question "a" above, project construction would include extending an existing recycled water line from the intersection of Walsh Avenue and Northwestern Parkway (approximately 500 feet east of the project site) to the site for secondary water needs. While this construction would require temporary lane blockages/closures on Walsh Avenue during daytime hours, Walsh Avenue has four travel lanes. The temporary construction associated with connecting the project site to the existing buried recycled water line is not anticipated to disrupt more than one travel lane at a time. This would ensure at least one travel lane remains open in each direction. Project construction would not otherwise temporarily or permanently alter any public roadways or intersections that could result in roadway hazards.

The city of Santa Clara, as the permitting agency, would ensure the project applicant obtains the proper encroachment permit to minimize disruption to Walsh Avenue during construction. As part of this permit, the city of Santa Clara may require the applicant to ensure temporary lane closures and traffic control measures occur according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices, the Standard Specifications for Public Works Construction, and/or the California Joint Utility Traffic Control Manual. Lastly, the city of Santa Clara would require the applicant to obtain any required permits from Caltrans for the movement of oversized or excessive load vehicles on state roadways prior to construction to reduce effects on the state transportation network, as discussed under the "Regulatory Background" heading of this section. These actions would reduce any hazards from construction activities affecting roadways and from transporting materials to and from the site. Therefore, the impact to roadway hazards would be less than significant.

As discussed under the "Regulatory Background" heading of this section, under federal law, 14 CFR § 77.5 et. seq, the height threshold for FAA notification is 92 feet AGL at the project site. Project construction is expected to require a crane for placement of each chiller on the proposed structure roof. The top of the chillers is estimated to be nearly 110 feet AGL (DayZenLLC 2021e). Therefore, the crane boom would exceed 92 feet in height. This requires the project applicant to submit Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA. It should be noted, the FAA generally grants a Determination of No Hazard for temporary construction equipment. The city of Santa Clara, as the permitting agency for the project, would ensure consistency with this federal regulation and compliance with any of the FAA's conditions to reduce potential airspace hazards. For these reasons, project construction would not increase hazards from an incompatible use and impacts would be less than significant.

Operation

Less Than Significant Impact.

Access. The existing curb locations and geometric design of vehicle site access from Walsh Avenue would remain identical to their current locations. For vehicle access, vehicles would be able to enter the site from the two gated entrances located at the eastern driveway and the western driveway. However, security protocols would most likely require vehicles to enter through the security checkpoint located at the eastern driveway. Vehicles exiting the site may use either the western or eastern driveways. As these driveways would be identical to the existing vehicle ingress and egress points of the site, the operation of the project would not increase surface transportation hazards.

Structure Height. As discussed under the "Regulatory Background" heading of this section, under federal law, 14 CFR § 77.5 et. seq, the height threshold for FAA notification is 92 feet AGL at the project site. Furthermore, the Santa Clara County Airport Land Use Commission's CLUP identifies that any structure greater than 170 feet AGL may pose a safety hazard at the site.

The highest point of the proposed project structure, the top of the penthouse roof, would be approximately 108 feet and 5 inches AGL (DayZenLLC 2021e). The proposed chillers would also be located on the roof of the building, with the top of the chillers being nearly 110 feet AGL (DayZenLLC 2021e). Based on these peak heights, the project would not exceed the Santa Clara County Airport Land Use Commission's CLUP hazard height restriction. However, the project would exceed the FAA's obstruction threshold of 92.4 feet AGL at the project site. As a result, the project applicant would be required to submit Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA. The city of Santa Clara, 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 operation would not increase airspace hazards due to an incompatible structure and impacts would be less than significant.

Thermal Plumes. The project would involve 44 emergency backup diesel generators (generators) and 48 roof-mounted air chillers. The generators would be located at ground level, and the chillers would be located on the roof. Both the generators and the chillers would discharge vertical thermal plumes (i.e., high-velocity columns of hot air) during operation. Thermal plume velocities would be greatest at the discharge points, with plume velocities decreasing with 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 potential airspace safety impacts from the heights of physical structures, it does not regulate thermal 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. Two project features would produce thermal plumes: the generators and the chillers. Thermal plumes from these two features are discussed below.

- Emergency Backup Diesel Generators. Under worst-case weather conditions (calm winds), estimates show the project's generator plumes would maintain a peak vertical velocity of 10.6 m/s up to approximately 83 feet AGL (DayZenLLC 2021e). As the generators would be located at ground level next to the proposed building, this height is lower than the proposed building height of 110 feet AGL. Therefore, thermal plumes from the operation of the generators would not impact aviation safety.
- Chillers. Estimates show the project's chiller plumes would maintain a peak vertical velocity of 10.6 m/s up to approximately 131 feet AGL. As chillers would be located on the roof, which would be at 110 feet AGL (DayZenLLC 2021e), this means thermal plumes from the chillers at a speed of 10.6 m/s would only extend 21 feet above the proposed building roof. Federal law, 14 CFR § 91.119, 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). Therefore, aircraft would not be expected to be flying low enough (21 feet above the proposed building) to encounter potentially hazardous thermal plumes produced by the project's chillers. Therefore, the project would result in less than significant hazards to aircraft from thermal plumes.

d. Result in inadequate emergency access?

Construction

Less Than Significant Impact. As discussed under Impact 4.17.a, project construction would include extending an existing recycled water line from the intersection of Walsh Avenue and Northwestern Parkway (approximately 500 feet east of the project site) to the site for secondary water needs. While this construction would require temporary lane blockages/closures on Walsh Avenue during daytime hours, Walsh Avenue has four travel lanes. The temporary construction associated with connecting the project site to the existing buried recycled water line is not anticipated to disrupt more than one travel lane at a time. This would ensure at least one travel lane remains open in each direction. Project construction would not otherwise temporarily or permanently alter any public roadways or intersections that could result in roadway hazards.

The city of Santa Clara, as the permitting agency, would ensure the project applicant obtains the proper encroachment permit to minimize disruption to Walsh Avenue during construction. As part of this permit, the city of Santa Clara may require the applicant to ensure temporary lane closures and traffic control measures occur according to standard

guidelines outlined in the Manual on Uniform Traffic Control Devices, the Standard Specifications for Public Works Construction, and/or the California Joint Utility Traffic Control Manual. This would ensure emergency vehicle travel on Walsh Avenue and access to adjacent buildings is not disrupted during the construction of the recycled water line extension. Therefore, the impact would be less than significant.

Operation

Less Than Significant Impact. The city of Santa Clara Fire Department reviewed the project and recommended several access and internal circulation changes to ensure proper turning radius and movement of emergency vehicles would occur. These changes included (DayZenLLC 2021f):

- Expanding the width and apron radius at the existing entrance on Walsh Avenue (west side),
- Creating a new entrance on Walsh Avenue at the east side to allow for the circular movement of vehicles through the project site; and
- Expanding the width of internal access roads and adjusting the location of the proposed substation to ensure the turning radius requested by the Fire Department was provided at all four corners of the proposed building.

With the incorporation of these changes into the project design, all requests by the city of Santa Clara Fire Department have been met to ensure proper access and movement of emergency service vehicles throughout the project site. Lastly, the city of Santa Clara, as the permitting agency, would ensure the project is consistent with building and zoning code requirements ensuring adequate emergency access. Therefore, the impact would be less than significant.

4.17.3 Mitigation Measures

TRANS-1: The project shall implement a Transportation Demand Management (TDM) program sufficient to demonstrate that vehicle miles travelled (VMT) associated with the project would be reduced to 14.14 or less per employee. The TDM program shall include, but is not limited to, the following measure, which has been determined to be a feasible method for achieving the required VMT reduction:

- The operations workforce at the project shall work a 4-40 work schedule (40 hours in 4 days).

Prior to the issuance of an occupancy permit, the TDM program shall be submitted and approved by the Director of Community Development and shall be monitored annually to gauge its effectiveness in meeting the required VMT reduction. The TDM program shall establish an appropriate estimate of initial vehicle trips generated by the occupant of the proposed project and shall include the conducting of driveway traffic counts annually to measure peak-hour entering and exiting vehicle volumes. The volumes shall be compared to trip thresholds established in the TDM program to determine whether the required

reduction in vehicle trips is being met. The results of annual vehicle counts shall be reported in writing to the Director of Community Development.

If TDM program monitoring results show that the trip reduction targets are not being met, the TDM program shall be updated to identify replacement and/or additional feasible TDM measures to be implemented. The updated TDM program shall be subject to the same approvals and monitoring requirements listed above.

4.17.4 References

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VTA 2021b – Santa Clara Valley Transportation Agency (VTA). VTA System Maps, Downtown San Jose Map and Main Map. Accessed on January 6, 2022. Available online at: https://www.vta.org/go/maps

VTA 2021c – Santa Clara Valley Transportation Agency (VTA). Bus Route 21 information. Accessed on July 9, 2021. Available online at: https://newservice.vta.org/routes/21

4.18 Utilities and Service Systems

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the project including the data center and the backup generation facility on the Utilities and Service Systems in the project area.

UTILITIES AND SERVICE SYSTEMS Would the project:	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental checklist established by CEQA Guidelines, Appendix G.

4.18.1 Environmental Setting

The proposed project would be constructed on a previously disturbed site that was fully developed and was originally used for commercial purposes. The project is estimated to use approximately 1.75 acre-feet (AF) during the two phases of construction expected to last about 24 months (CA3 Vantage 2021). The proposed project would have an operational demand of approximately 2.0 acre-feet per year (AFY) of potable water and approximately 0.8 AFY of recycled water for landscaping purposes. The project would generate approximately 144,000 gallons per day (gpd) of wastewater, which would be discharged to the San Jose-Santa Clara Regional Wastewater Facility (RWF) for treatment and disposal. The project would use up to 832,000 MWh of electricity per year (CA3 Vantage 2021). Electricity demand for the proposed project would be provided by Santa Clara County's Silicon Valley Power (SVP). A small amount of typical data center solid

waste would be generated by the project and would be disposed of at the Newby Island Landfill in San Jose.

Potable Water Supply

The project would be supplied with potable water provided by the city of Santa Clara. The potable water system gets water from three sources: Santa Clara Valley Water District (SCVWD), the San Francisco Public Utilities Commission (SFPUC), and 26 groundwater wells operated by the city's Department of Water and Sewer Utilities. The project is in the northern part of the city, which is served with water from SFPUC. In 2020, about one-third of the city's potable water came from the imported treated water supplies (SCVWD and SFPUC) and groundwater made up approximately two-thirds of the city's potable water supply. The water system in the city consists of more than 335 miles of distribution mains, 26 groundwater wells, and seven storage tanks with a total capacity of approximately 28.8 million gallons, or approximately 88 AF. According to the city's 2020 Urban Water Management Plan (UWMP), which was approved and adopted by the Santa Clara City Council on June 22, 2021, the citywide demand for potable water in 2020 was 18,302 AF (Santa Clara 2016). One AF is the equivalent of approximately 326,000 gallons.

Recycled Water Supply

Recycled water is supplied to the city of Santa Clara through the South Bay Water Recycling (SBWR) program. The SBWR obtains advanced tertiary treated water from the RWF, formerly known as the San Jose-Santa Clara Water Pollution Control Plant. In 2020, the RWF treated a total of 113,493 AF of wastewater, of which 12,571 AF was treated to state Title 22 recycled water standards, out of which the city of Santa Clara received 3,499 AF. The remaining treated wastewater was discharged to the San Francisco Bay (Santa Clara 2020). The recycled water purchased from the SBWR made up approximately 19 percent of the overall water use in the city. The city of Santa Clara uses recycled water for the non-potable needs of businesses, industries, parks, and schools located along pipeline routes. Water Code sections 13550 and 13551 include strong language prohibiting the use of potable water where recycled water can be used, such as cooling, if recycled water is available and economically feasible. The Santa Clara City Code also has similar requirements (Santa Clara 2020). A recycled water connection that can serve the proposed project is located at the intersection of Walsh Avenue and Northwestern Parkway, approximately 500 feet to the southeast of the project site. The project plans to extend the recycled water line as a secondary source of water (CA3 2021).

Wastewater Service

The city of Santa Clara's Departments of Public Works and Water and Sewer Utilities are responsible for the wastewater collection system within the city. Wastewater is collected by sewer systems in Santa Clara and is conveyed by pipelines to the RWF. The RWF is jointly owned by the cities of San Jose and Santa Clara and is operated by the city of San

Jose's Department of Environmental Services. The RWF has a capacity to treat 167 million gallons per day (mgd) of wastewater and currently treats an average of 110 mgd, thus the RWF facility has 57 mgd, or 35 percent of available capacity. Approximately 13 percent of the RWF's effluent undergoes advanced tertiary treatment to meet state Title 22 recycled water standards, after which it flows to SBWR's adjacent pump station to be distributed to several customers in the city. The remaining effluent flows into San Francisco Bay. The RWF's current Waste Discharge Requirements (WDRs) were issued by the San Francisco Bay Regional Water Quality Control Board (RWQCB) in September 2014.

Storm Sewer Service

The city of Santa Clara owns and maintains the municipal storm drainage system in the vicinity of the project site. The project site drains by a combination of surface flow and underground pipes towards the city's stormwater system located underneath Walsh Avenue (Walsh 2019), which discharges to Guadalupe River and ultimately the San Francisco Bay (Santa Clara 2016).

Solid Waste

Solid waste and recycling collection for businesses at commercial and institutional properties in the city of Santa Clara is provided by Mission Trail Waste Systems through a contract with the city. 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 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

Electricity needed for project operation would be provided by SVP. Telecommunication services would be provided by one of several fiber optics providers in the project area, who provide their services using lines that run in city-owned conduits close to the project site. The services would be provided to the facility via established rights of way, as is the industry's common practice.

Natural gas for comfort heating would be supplied to the project by Pacific Gas and Electric (PG&E).

Regulatory Background

Federal

Federal Clean Water Act (33 U.S.C. Sec. 1251 et seq.) and State Porter-Cologne Water Quality Control Act (Water Code, Sec. 13000 et seq.). 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 (33 U.S.C. Sec. 1251 et seq.) (CWA) and the state Porter-Cologne Water Quality Control Act (Water Code, Sec. 13000 et seq.) (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. The protection of water quality could be achieved by the proposed project by complying with applicable NPDES permits from the SWRCB or the San Francisco BayRWQCB. The RWF complies with the CWA through its current NPDES WDRs, which were issued by the San Francisco Bay 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. The 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 Stormwater NPDES Permit (Permit Number CAS612008) that requires the city of Santa Clara to implement a stormwater quality protection program. This regional permit applies to 77 Bay Area municipalities, including the city of Santa Clara. Under the provisions of the Municipal NPDES Permit, redevelopment projects that disturb more than 10,000 square feet are required to design and construct stormwater treatment controls to treat post-construction stormwater runoff. The permit requires the post-construction runoff from qualifying projects to be treated by using low impact development (LID) treatment controls, such as biotreatment facilities.

The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) assists co-permittees, such as the city of Santa Clara, in the implementation of the provisions of the Municipal NPDES Permit. In addition to water quality controls, the Municipal NPDES Permit requires all new and redevelopment projects that create or replace one acre or more of impervious surface to manage development-related increases in peak runoff flow, volume, and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation, or other impacts to beneficial uses of local rivers, streams, and creeks. Projects may be deemed exempt from the Municipal NPDES Permit requirements

if they do not meet the size threshold, drain into tidally influenced areas or directly into San Francisco Bay (per the city of Santa Clara Hydromodification Management Map). The project site is 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

Water Code, Sections 10910-10915. Water Code sections 10910-10915 require 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).

Water Code, section 10912, defines a "Project" as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified in the prior bullet points.
- 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.

If a proposed project satisfies that definition of a "Project," then pursuant to Water Code, section 10910, a detailed WSA would be required to be prepared by the water supplier.

Further guidance for how to interpret these sections of the Water Code is provided in a 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 the first bullet point 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 in a very well-studied service area with many service connections. Furthermore, the project is similar to the Walsh Data Center (exempted by the California Energy Commission in August 2020) in terms of total square footage but is expected to use less water. The city of Santa Clara determined that the Walsh Data Center project did not require a WSA (Walsh 2019b, Appendix E), so a similar determination would be expected for this CA3 (Vantage) Data Center project.

California 2019 Energy Efficiency Standards for Residential and Nonresidential Buildings—Green Building Standards Code, California Code of Regulations, Title 24. The California Green Buildings Standards Code (California Code of Regulations, Title 24, Part 11) applies to the planning, design, operation, construction, use, and occupancy of newly constructed buildings and requires the installation of energy- and water-efficient indoor infrastructure. The related waste management plan is required to allow for the diversion of 50 percent of the generated waste away from the landfill.

Integrated Waste Management Act of 1989 (Public Resources Code, Section 40000 et seq.). The Integrated Waste Management Act of 1989 (Public Resources Code, section 40000 et seq.) requires cities and counties to reduce by 50 percent the amount of solid waste disposed of in landfills by the year 2000. To comply with the Integrated Waste Management Act, counties adopt regulations and policies to fulfill the requirements of the Act.

Senate Bill 350 (Renewable Energy Targets)

Senate Bill (SB) 350, the Clean Energy and Pollution Reduction Act of 2015, was enacted October 7, 2015, and took effect January 1, 2016. SB 350 (Chapter 547, Statues of 2015) codified, among other things, the state goal of increasing the procurement of electricity from renewable sources from 33 percent by 2020 to 50 percent by 2030. SB 350 also required the establishment of annual targets for statewide energy efficiency savings and demand reduction starting November 1, 2017. These energy efficiency savings and demand reductions would be designed to achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas use by January 1, 2030.

Local

City of Santa Clara 2010-2035 General Plan. The City of Santa Clara 2010-2035 General Plan (General Plan) includes numerous policies related to utilities and service systems. With respect to waste, General Plan Policy 5.10.1-P8 aims to increase a reduction for solid waste tonnage to 80 percent by 2020, or as consistent with the Climate Action Plan (CAP), Plan 2014 (Santa Clara 2016). Measure 4.2 of the CAP was adopted by the General Plan to achieve the goal of an 80 percent reduction in solid waste generation.

Santa Clara City Code. According to Santa Clara City Code Section 8.25.285, applicants seeking building or demolition permits for projects greater than 5,000 square feet are required to recycle at least 50 percent of the solid waste generated by the project (Santa Clara 2014).

4.18.3 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. Typical of other low wastewater producing industries, data centers produce low volumes of wastewater with no hazardous constituents. Treated wastewater is monitored by the San Francisco Bay RWQCB to ensure compliance with the facility's NPDES wastewater discharge permit. The RWF is permitted to treat the industrial and sanitary waste flows that would be generated by the project. Furthermore, as discussed below, the RWF has sufficient available capacity to accommodate the project's estimated wastewater flow. Therefore, the project would not cause the RWF to exceed its wastewater treatment requirements of the San Francisco Bay RWQCB for project construction and operation. The impact of the project on wastewater treatment capacity would be less than significant.

While the project would use a relatively small amount of electric energy during construction, it would use up to 832,000 MWh per year of electricity during operation (CA3 Vantage 2021). Electricity demand for the proposed project would be provided by SVP. In 2020, SVP sold approximately 3.5 million MWh to its customers, the vast majority of which was for non-residential (industrial and commercial) customers (CEC 2021). According to SVP's 2017 Integrated Resources Plan (IRP), electric demand in the SVP service area is projected to grow from 586 MW in 2017 to approximately 873 MW in 2038 (SVP 2021). The projected increase is attributed to a projected increase in population and an increase in demand for prospective commercial and industrial development, including data centers. To meet the projected increase in demand, SVP is continuously entering into agreements to procure electricity from renewable sources. Between currently owned supplies and guaranteed future deliveries, SVP has a total of approximately 1,121 MW, or approximately 9.8 million MWh per year of total energy supplies (SVP 2021). Thus, SVP has approximately 6.3 million MWh per year available to meet projected growth in demand. This is much more than the project's estimated annual energy demand of 832,000 MWh per year. SVP electrical resources

available are reliable. Project electricity demand during construction and operation would not be expected to affect existing users. The construction and operation of the project would not require new or expanded electric power utilities. 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 business in the project area. Those providers have adequate available capacity to accommodate the project needs during construction and operation as evidenced by the fact that there is an abundance of telecommunication providers in the Santa Clara region, including Frontier, AT&T, T-Mobile, Verizon, and many others. The impact of the project on telecommunication services would be less than significant.

PG&E owns natural gas distribution facilities within the city of Santa Clara. CA3 would incrementally increase natural gas use, primarily for comfort heating purposes. Natural gas would be obtained from PG&E but would not require the construction of any additional offsite facilities.

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 Department of Water and Sewer Utilities. This system is supplied with potable water from three sources: SCVWD, SFPUC, and 26 groundwater wells operated by the city's Department of Water and Sewer Utilities. The proposed project is in an area served primarily with surface water from SFPUC. In 2020, about one-third of the city's potable water came from the imported treated water supplies (SCVWD and SFPUC); the other two-thirds came from groundwater. The water system in the city consists of more than 335 miles of distribution mains, the 26 groundwater wells discussed above, and seven storage tanks with approximately 28.8 million gallons of capacity. According to the 2020 UWMP, the citywide demand for potable water in 2020 was 18,302 AF (Santa Clara 2020). The city also distributed 3,499 AFY of recycled water in 2020, which resulted in a savings of 19 percent of potable water for the city (UWMP 2020). The UWMP also concludes that the city is expected to meet projected future demands ranging from approximately 21,801 AFY in 2025 and gradually increasing to approximately 31,676 AFY in 2045. Those demands include recycled water demands projected to be approximately 4,570 AFY in 2025 and gradually increasing to approximately 9,488 AFY in 2045.

The project is estimated to use approximately 1.75 AF during the two phases of construction expected to last about 24 months (CA3 Vantage 2021). That is equivalent to 0.88 AFY, which is less than half the project's estimated annual demand of approximately 2.8 AFY for operational needs, which, as discussed below, is less than the historic use of 3.2 AFY by the previous user at the project site. The impact of construction water demand would, therefore, be less than significant.

The proposed project would have an operational demand of approximately 2.0 AFY of potable water and approximately 0.8 AFY of recycled water for landscaping purposes. The city's UWMP for 2020 shows that the city has a sufficient supply to meet the project's demand in normal and single dry-year scenarios. However, the UWMP shows that the city could have a deficit in multiple dry-year scenarios if supply from SFPUC is interrupted. Under a multi-year drought scenario, the city's supply from SFPUC might be interrupted if certain conditions specified in the interruptible contract between the city and SFPUC are met (Santa Clara 2020). However, if supply from SFPUC is interrupted for any reason, the city has conservation plans and other measures in place to manage supply to meet demand. Examples of measures the city would implement to deal with water shortages include increasing groundwater pumping and encouraging customers to practice voluntarily, or, in severe shortage situations, imposing mandatory reductions of water supplies to reduce consumption (Santa Clara 2020).

The proposed project would be constructed on a previously disturbed site that was fully developed and was originally used for commercial purposes. Historic water use for the pre-existing and soon-to-be-demolished commercial activities were approximately 3.2 AFY of potable water supplied by the city. Thus, the proposed project would result in a slight net reduction in potable water use and a net beneficial impact on local water supplies.

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Construction and Operation

Less Than Significant Impact. The RWF treats an average of 110 mgd of wastewater, which is 57 mgd less than its 167 mgd treatment capacity. No information was provided by the applicant on the amount of wastewater that would be generated by the project. However, similar data center projects of comparable sizes generate less than a maximum of 100 gallons per minute, or 144,000 gallons per day, 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 impervious surfaces. The project would reduce impervious areas at the site, which would result in more stormwater infiltration and, thus, a reduction in stormwater runoff. The proposed project would also include a stormwater collection system that includes stormwater bio-swales to reduce the overall runoff into the city's collection system and to control sedimentation impacts. In addition, the project would have to comply with the city's municipal stormwater permit, which would further reduce the likelihood of the project causing an increase in stormwater discharge from the site. Although the project would not be expected to result in increasing stormwater runoff from the project, the implementation of the new stormwater collection system described above would ensure that the project would comply with the city's municipal stormwater permit. The impact from the project on the stormwater system capacity would 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. The demolition and construction activities for the project would result in minor amounts of solid wastes and a temporary increase in solid wastes. The project would divert construction and demolition waste during project construction to help the city reach its 80 percent waste diversion rate as required by Measure 4.2 of the CAP (CA3 Vantage 2021). Operations would result in the long-term generation of a small amount of solid waste. Based on solid waste generation rates for different uses published by the Department of Resources Recycling and Recovery (CalRecycle), the project would generate about 6,674 pounds, or 3.3 tons, per day of solid waste during operation (CA3 Vantage 2021). The solid waste would be disposed of at the Newby Island Landfill in San Jose. 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 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). The estimated rate of solid waste generation of 3.3 tons per day the constitutes a small fraction (0.1 percent) of the total daily capacity of 3,260 tons per day the landfill is capable of processing. Thus, the project would not significantly increase solid waste generation and could be accommodated by existing solid waste facilities. Therefore, the impact resulting from the 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

Less Than Significant Impact. The Integrated Waste Management Act of 1989 requires local jurisdictions in California to reduce by 50 percent the amount of solid waste disposed of in landfills by the year 2000. 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 the disposal of solid waste meets these requirements. Through recycling efforts, such as sorting wastes at the disposal facilities and diverting some waste(s) for recycling, the project will help to achieve General Plan goals for waste reduction. The project would divert construction and demolition waste during project construction to help the city reach its 80 percent waste diversion rate as required by Measure 4.2 of the CAP. The project would not result in an adverse impact on solid waste collection and would comply with management and reduction regulations (CA3 Vantage 2021). Typically, data centers do not generate special or unique wastes. Likewise, this project would not generate any special or unique wastes to cause non-compliance with federal, state, and local statutes or solid waste management and reduction regulations. The management of hazardous waste and applicable federal regulations are discussed in **Section 5.9, Hazards and Hazardous Materials**.

During operation, the project would comply with federal, state, and local statutes and regulations related to solid waste and recycling requirements. Specifically, the project would handle its solid waste in compliance with city regulations and measures to achieve recycling goals. The project would recycle as much as possible of the solid waste generated and dispose only of permitted wastes to the waste handler. In the unlikely event the waste handler determines that the project is disposing of wastes that could be recycled, they would notify the project owner to alter its waste stream to facilitate compliance with the city requirements. There would be no change in compliance with federal, state, or local statutes and regulations related to solid waste management and reduction, and, therefore, no impact would occur.

4.18.4 Mitigation Measures

None

4.18.5 References

DayZenLLC 2021a-d – DayZenLLC (DayZenLLC). (TN 237380-383). VDC CA3BGF SPPE Application Part I, dated April 5, 2021. Available online at: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-SPPE-01

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Santa Clara 2014 – City of Santa Clara 2010-2035 General Plan. Approved by City Council November 16, 2010 and updated December 9, 2014. Available at: http://santaclaraca.gov/government/departments/communitydevelopment/planning-division/general-plan . Accessed: July 25, 2021.

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SVP 2021b – The Silicon Valley Power (SVP). Resources Map. Accessed: December 9, 2021. Available at: http://www.siliconvalleypower.com/home/showdocument?id=5763

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4.19 Wildfire

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

WILDFIRE If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Environmental criteria established by CEQA Guidelines, Appendix G.

4.19.1 Setting

Wildfire Hazards

The Department of Forestry and Fire Protection (Cal Fire) identifies and maps areas of significant fire hazards based on fuels, terrain, and other relevant factors. These maps categorize this information by Fire Hazard Severity Zones (FHSZ), grouped into unzoned, moderate, high, and very high zones. State Responsibility Areas (SRA) are locations where the state of California is responsible for wildfire protection and Local Responsibility Areas are locations where the responding agency is the county or city.

The California Public Utilities Commission (CPUC) categorizes fire threat areas as 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-CAL FIRE) joint map of Tree Mortality HHZ. This tier represents areas where tree mortality directly coincides with critical infrastructure such as communities, roads, and utility lines, and are a direct threat to public safety. Tier 2 consists of areas where there is an elevated risk (including likelihood and potential impacts on people and property) from wildfires associated with overhead utility power lines or overhead utility power-line facilities also supporting communication facilities. Tier 3 consists of areas where there is an extreme risk (including likelihood and potential

impacts on people and property) from wildfires associated with overhead utility power lines or overhead utility power-line facilities also supporting communication facilities.

The project site is surrounded by urban and industrial development in the city of Santa Clara and is not located in or near an SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC. The project site is also not within a state of California FHSZ (Cal Fire 2019) 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 of this code section 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. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Construction

No Impact. During project construction, traffic levels would experience a minimal increase that is not expected to degrade traffic performance significantly. Emergency response access during construction would not be significantly impeded. The project would not involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No streets would be closed, rerouted, or substantially altered during construction.

Additionally, the project is not located in or near an 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 who could increase emergency response demand during a potential evacuation. Thus, the project would not interfere with the coordination of the city's emergency operations plan at the emergency operations center or alternate emergency operations center, nor would the project interfere with any statewide emergency response, or evacuation routes or plans. Adequate emergency access to the project site and surrounding industrial area would be maintained.

Additionally, the project is not located in or near an SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

b. Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Construction and Operation

No Impact. The topography of the project site is flat and the project area is highly developed with minimal open space areas, faces, or slopes. Therefore, project construction would not exacerbate wildfire risk or expose occupants to pollutant concentrations from a wildfire.

Additionally, the project is not located in or near an SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

c. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency

water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Construction and Operation

No Impact. The project would require the installation of an onsite distribution substation to provide 60kV service to the site. The switching station will ultimately be owned and operated by Silicon Valley Power as part of its 60kV loop system. The construction of the substation would not block access to any road or result in traffic congestion. Maintenance of this substation would not physically block any access roads or result in traffic congestion that could significantly compromise timely access to this facility or any other location. 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 will not constitute a possible ignition source for local vegetation, nor will it block access to any road or result in traffic congestion.

Additionally, the project is not located in or near an SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC.

d. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Construction

No Impact. The project would not substantially alter local drainage patterns. Storm water discharge during construction would be managed according to the project's Storm Water Pollution Prevention Plan, and appropriately discharged to the city of Santa Clara's storm drain system. The project would therefore not be expected to contribute to a flooding hazard onsite or offsite. For further discussion of the potential flooding impacts that could result from 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 and highly developed. Therefore, the project would not be exposed to post-fire slope instability or drainage changes.

Additionally, the project is not located in or near an SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC, so the types of hazards listed as potentially occurring in a post-fire situation are not likely to occur.

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 Santa Clara's storm drain system. The project would therefore not contribute to a flooding hazard onsite or offsite.

As discussed in this section, the topography of the project site and surrounding area is relatively flat and highly developed. Therefore, the project would not be exposed to post-fire slope instability or drainage changes.

Additionally, the project is not located in or near an SRA or a very high FHSZ, or land classified as having a fire threat by the CPUC, so the types of hazards listed as potentially occurring in a post-fire situation are not likely to occur.

4.19.3 Mitigation Measures

None

4.19.4 References

CALFIRE 2019 – Santa Clara County FHSZ Map in Local Responsibility Area. Accessed on: June 15, 2021. Available online at: https://osfm.fire.ca.gov/media/5935/san_jose.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 the implementation of staff recommended mitigation measures, the project would not substantially degrade the quality of the environment, substantially reduce the existing habitat of any fish or wildlife species, cause any fish or wildlife population to drop below self-sustaining levels, threaten

to eliminate any plant or animal community, or substantially reduce the number or restrict the range of an endangered, threatened, or rare plant or animal species.

The project site is in a highly developed area and surrounded by commercial and industrial buildings. Therefore, the potential to degrade environmental quality is minimal, as the project site and surrounding properties do not support natural vegetation that would allow for extensive wildlife foraging or occupancy. However, mature landscaping trees and shrubs provide nesting opportunities for protected migratory bird species. Existing structures and trees also provide roosting opportunities for protected bat species. The implementation of mitigation measures **BIO-1** and **BIO-2**, which would require avoidance and minimization measures for protected migratory bird species and protected bat species, would ensure that project impacts would be less than significant.

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**, most archaeological resources aged about 5,000 years or older are buried beneath the ground surface. If these resources were to be exposed or destroyed, it would be a significant impact. The implementation of mitigation measures **CUL-1** and **CUL-2** 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. 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 (5) 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 Santa Clara 2010-2035 General Plan (General Plan) (Santa Clara 2010) policies (5.6.3-P1, -P2, -P4, -P5) and implementation of proposed **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, and, 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 City of Santa Clara 2010-2035 General Plan Integrated Final Environmental Impact Report (General Plan EIR) since the project would be consistent with applicable land use plans and policies (Santa Clara 2011). The General Plan EIR identified that the build-out of the general plan would contribute to five significant and unavoidable cumulative impacts in the areas of climate change, noise, population and housing, traffic, and solid waste.

General Plan Significant Unavoidable Impacts

The General Plan EIR identified the following significant unavoidable environmental impacts applicable to the proposed project:

- Climate Change – Contribution to greenhouse gas (GHG) emissions exceeding Santa Clara's emissions reduction target for 2035;
- Noise – Increase in localized traffic noise level on roadway segments throughout Santa Clara;
- Population and Housing – Exacerbation of land use impacts arising from the jobs/housing imbalance;
- Traffic – Degradation of traffic operations on regional roadways and highways within Santa Clara of an unacceptable level of service; and
- Solid Waste – Contribution to solid waste generation beyond available capacity after 2024.

Although the project, in combination with future development in the city of Santa Clara, could conceivably have a significant cumulative impact to these environmental resources, the following discussion demonstrates how the project's contribution to these impacts would be less than cumulatively considerable.

Climate Change Impacts (Greenhouse Gas Emissions)

Less Than Significant with Mitigation Incorporated. The Bay Area Air Quality Management District (BAAQMD) 2017 California Environmental Quality Act (CEQA) Air Quality Guidelines do not identify a GHG emissions threshold for construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and the impacts be determined in relation to meeting California Global Warming Solution Act of 2006, Assembly Bill (AB) 32, GHG emissions reduction goals. BAAQMD further recommends the incorporation of Best Management Practices (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 and not cumulatively considerable.

For readiness testing and maintenance-related emissions, the BAAQMD 2017 CEQA Air Quality Guidelines state 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). However, BAAQMD is in the process of preparing and presenting to the BAAQMD board for approval an update to the CEQA GHG threshold for stationary sources to 2,000 $MTCO_2e$/yr or compliance with the California Air Resources Board's cap-and-trade program. As a stationary source, the project's emergency backup generators may be subject to the pending CEQA GHG threshold. The emergency backup generators would not have a cumulatively considerable contribution to GHGs if emissions are below the applicable BAAQMD CEQA GHG threshold.

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, based on guidance in BAAQMD's CEQA Guidelines. Instead, GHG impacts from all other project-related emissions sources would be considered to have a less-than-significant impact if the project is consistent with the city of Santa Clara Climate Action Plan (CAP), which is considered a qualified GHG reduction strategy, and applicable regulatory programs and policies adopted by the California Air Resources Board (CARB) or other California agencies. However, it should be noted that the current versions of the CAP and CARB's scoping plan, a statewide planning document for the reduction of GHG emissions across sectors, have focused on the near-term 2020 and 2030 GHG goals. They do not address the sharp cuts that will be needed to meet the state's 2045 goals and beyond. The city of Santa Clara is in the process of updating the CAP with a planned adoption date of April 2022 (Santa Clara 2021, CEC 2021x). The 2022 update to CARB's scoping plan is also currently under development to plan for the 2045 target set forth by the Governor's Executive Order B-55-18.

With the applicant's conservative estimate of 35 hours of readiness testing and maintenance per year per engine, the GHG emissions of the emergency backup generators of the project are expected to be less than the 10,000 $MTCO_2e$/yr threshold but more than the 2,000 $MTCO_2e$/yr threshold BAAQMD is currently considering. Therefore, staff proposes mitigation measure **GHG-1** to require the applicant to limit the GHG emissions of the emergency backup generators to the BAAQMD CEQA GHG threshold

applicable at the time of permitting. Staff also proposes mitigation measure **GHG-2** to require the applicant to use an increasing mix of renewable diesel and phase out the use of conventional petroleum diesel. Staff also proposes mitigation measure **GHG-3** to require the applicant to participate in Silicon Valley Power's Large Customer Renewable Energy (LCRE) program or other renewable energy program that accomplishes the same objective as SVP's LCRE Program for 100 percent carbon-free electricity or purchase ~~carbon offsets~~ renewable energy credits or similar instruments that accomplish the same goals of 100 percent carbon-free electricity. Additionally, the project would implement efficiency measures to meet California's green building standards, and additional voluntary efficiency and use reduction measures. As such, GHG emissions related to the project would not conflict with the city of Santa Clara CAP 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 cumulatively considerable.

Noise Impacts

Less Than Significant with Mitigation Incorporated. The General Plan EIR anticipates significant noise impacts from the build-out of the General Plan. Temporary construction activities at the project site may significantly increase the existing ambient noise levels at the residential area immediately south of the project site (depending on the activity occurring and equipment being used at the time). However, with the implementation of the proposed mitigation measure **NOI-1**, noise impacts would be reduced during construction to less than significant. Likewise, with the implementation of **NOI-1**, the project's contribution to cumulative noise impacts during project construction would not be cumulatively considerable.

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. Based on the facility's anticipated 13.2 daily vehicle miles traveled (VMT) per worker for operations, the facility would not substantially increase the traffic or associated traffic-related noise levels in the project area. Any noise impacts associated with construction and operation-related traffic would be less than significant and not cumulatively considerable.

Population and Housing Impacts

Less Than Significant Impact. The General Plan EIR identified significant impacts from the build-out of the General Plan land use designations. The General Plan EIR concluded that the proposed land uses would create a regional jobs/housing imbalance, as workers who are unable to live near their employment would commute long distances from outlying areas. As described in **Section 4.14 Population and Housing**, the project would not displace any people or housing or necessitate construction of replacement housing elsewhere. The operation of the project is anticipated to require a total of 19-21 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.

Traffic Impacts

Less Than Significant with Mitigation Incorporated. The General Plan EIR anticipates significant traffic impacts from the build-out of the General Plan. As discussed in **Section 4.17 Transportation**, the implementation of **TRANS-1** would reduce the project-generated VMT to a level below the city's threshold and reduce the project impact to a less-than-significant level. With the implementation of **TRANS-1**, the project's contribution to cumulative transportation impacts during project construction and operation would not be cumulatively considerable.

Solid Waste Impacts

Less Than Significant Impact. As stated in **Section 5.18 Utilities and Service Systems**, the city of Santa Clara has available landfill capacity at the Newby Island Landfill in the city of San Jose through 2041. The current landfill impacts are addressed within an ongoing Integrated Waste Management Plan of the city of Santa Clara to provide waste disposal services. The project would participate in the city's Construction & Demolition Debris Recycling Program by recycling or diverting at least 65 percent of materials generated for discards by the project to reduce the amount of demolition and construction waste going to the landfill. The operation of 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.

Other Technical Areas

Although the city's General Plan EIR 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 EIR was adopted before the enactment of AB 52 requiring such analysis, the 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 highly developed urban area within the city of Santa Clara, specifically intended to accommodate a range of light industrial uses that may have smoke, odor, dust, noxious gases, vibrations, glare, heat, fire hazards, or industrial wastes emanating from the property. The area permits light industrial uses, such as general service, warehousing, storage, distribution, and manufacturing.

There are no scenic vistas as discussed in **Section 4.1 Aesthetics** in the 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 would not conflict with the applicable city zoning and other regulations governing scenic quality. Nor is it expected that any foreseeable projects proposed and approved within this urbanized area would have significant impacts.

The project and other similar projects typically include outdoor lighting for driveways, entrances, walkways, parking areas, and security purposes. The City Code requires that lighting be directed away from residential areas and public streets. The nearest and only residential area is south of the Caltrain corridor and Bracher Park (public park).

The project would not: have a substantial adverse effect on a scenic vista; substantially damage scenic resources; substantially degrade the existing visual character or quality of public views of the site and its surrounding; and would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Nor is it expected that any foreseeable projects proposed and approved in the vicinity would have significant impacts under this technical area.

The project's contribution to Aesthetics impacts in the area would not be cumulatively considerable.

Air Quality

Less Than Significant with Mitigation Incorporated. The proposed project would be in Santa Clara County in the San Francisco Bay Area Air Basin (SFBAAB), under the jurisdiction of BAAQMD. The SFBAAB is designated as a nonattainment area for ozone and fine particulate matter having a diameter of less than or equal to 2.5 microns (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 having a diameter of less than or equal to 10 microns (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 emissions 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 the implementation of all feasible mitigation measures.

The construction exhaust 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's jurisdictional

boundaries. The BAAQMD CEQA Guidelines recommend the control of fugitive dust through BMPs to conclude that impacts from fugitive dust emissions are less than significant. The mitigation measure **AQ-1** would reduce air quality impacts during project construction. This measure requires incorporation of BAAQMD's recommended construction BMPs to control fugitive dust. This measure also incorporates exhaust control measures to reduce emissions from construction equipment. With the implementation of **AQ-1**, PM10 and PM2.5 emissions during construction would be reduced to a level that would not result in a considerable increase of these pollutants. Therefore, the project's construction emissions would not be cumulatively considerable.

During readiness testing and maintenance, the oxides of nitrogen (NOx) emissions of the emergency backup generators are estimated to exceed the BAAQMD significance threshold of 10 tons per year. All other pollutants would have estimated emissions rates below BAAQMD significance thresholds. The NOx emissions from the emergency backup generator readiness testing and maintenance would be required to be fully offset through the BAAQMD permitting process. Therefore, the project's emissions during readiness testing and maintenance would not be cumulatively considerable.

The criteria pollutant air quality impact analysis found that the concentrations from construction and readiness testing and maintenance of the gensets would not cause any exceedance of ambient air quality standards. Therefore, the project's criteria air pollutant impacts from genset readiness testing and maintenance would be less than significant.

The health risk assessment (HRA) shows that the project's health risk impacts would not exceed BAAQMD significance thresholds during construction or emergency backup generator readiness testing and maintenance. The project would not expose sensitive receptors to substantial toxic air contaminant (TAC) concentrations during construction or emergency backup generator readiness testing and maintenance.

Due to the infrequent nature of emergency conditions and the record of highly reliable electric service available to the project (see **Appendix B**), the project's emergency operations would be unlikely to expose sensitive receptors to substantial concentrations of criteria air pollutants or TACs.

Therefore, the project's air quality impacts would not be cumulatively significant.

Biological Resources

Less Than Significant with Mitigation Incorporated. The General Plan EIR found less than significant biological resources impacts in the event of a full build-out scenario. The project site and surrounding properties are highly developed with commercial and industrial buildings and associated paved parking. The potential to degrade environmental quality is minimal, as the project site and surrounding properties do not support natural vegetation that would allow for extensive wildlife foraging or occupancy. However, mature landscaping trees and shrubs and other features on and near the project site could provide nesting opportunities for birds protected under the Migratory Bird Treaty

Act and Fish and Game Code. Effects could include disruptions during the breeding season from construction and tree removal. In addition, mature landscaping trees as well as the existing building have the potential to provide roosting habitat for protected bat species in the roof cavities and other suitable crevices. Effects could include direct mortality during tree removal or building demolition. To ensure impact avoidance, **Section 5.4 Biological Resources** identifies the following mitigation measures: **BIO-1**, which requires nesting bird pre-construction surveys and implementation of appropriate nest buffers; **BIO-2**, which requires conducting bat clearance surveys prior to the demolition of the existing buildings or removal of trees and development of a Bat Mitigation and Monitoring Plan, which details exclusion methods, roost removal procedures, and compensatory mitigation methods for permanent impacts from roost removal; **BIO-3**, which provides detailed requirements for the replacement of trees removed as part of the project; and **BIO-4**, which requires the implementation of tree protection measures to avoid and minimize impacts to trees that remain on site. Biological resource impacts from the proposed project would be less than significant with the implementation of staff's proposed mitigation measures, and, therefore, would not be cumulatively considerable.

Cultural and Tribal Cultural Resources

Less Than Significant with Mitigation Incorporated. The General Plan EIR does not specifically address impacts on tribal cultural resources. Historical resources and unique archaeological resources, as defined by CEQA, share several of the impact vulnerabilities that tribal cultural resources face, especially the effects of ground-disturbing activities. In addition, historical and unique archaeological resources can also qualify as tribal cultural resources. The policies and resulting suite of mitigation measures for cultural resources presented in the General Plan EIR would reduce the severity of some impacts on tribal cultural resources. No known historical resources, unique archaeological resources, or 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 historical resources, unique archaeological resources, or tribal cultural resources. The implementation of proposed mitigation measures **CUL-1** and **CUL-2** would prevent, minimize, or compensate for impacts on buried, historical, unique archaeological, or tribal cultural resources. Project impacts to cultural resources and tribal cultural resources, therefore, would not be cumulatively considerable.

Energy and Energy Resources

Less Than Significant Impact. The total number of hours of operation for reliability purposes (i.e., readiness testing and maintenance) for the emergency backup generators would be limited to no more than 50 hours per generator annually and could be limited even further with implementation of GHG-1. At this rate, the total quantities of diesel fuel used for all the generators operating at full load would be approximately 10,047 barrels per year (bbl/yr). California has a diesel fuel supply of approximately 316,441,000 bbl/yr. The project's use of fuel constitutes a small fraction (less than 0.003 percent) of available

resources, and the supply is more than sufficient to meet necessary demand. For these reasons, the project's use of fuel is less than significant.

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 impact 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 several policies (5.6.3-P1, -P2, -P4, -P5) that specifically address impacts on paleontological resources (Santa Clara 2021). 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 EIR 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. The implementation of **GEO-1** would prevent, or minimize, impacts on buried paleontological resources. Project impacts to paleontological resources, therefore, would not be cumulatively considerable.

Hazards and Hazardous Materials

Less Than Significant with Mitigation Incorporated. As discussed in **Section 4.9 Hazards and Hazardous Materials,** ground-disturbing activities associated with the grading and construction activities of the project would have the potential to encounter impacted groundwater and/or soil. The contaminated soils could contain organochlorine pesticides, heavy metals, and volatile organic compounds. The applicant's proposed measure **HAZ-1** would require a site mitigation plan (SMP) to be created. The SMP would establish proper procedures to be taken when groundwater and contaminated soil is found and how to dispose of the contaminated soil properly. In addition, if contaminated soils are found in concentrations above thresholds, the project would halt construction and the soil would be treated in place or removed to an appropriate disposal facility. With the implementation of **HAZ-1**, the construction of the project would create a less than significant impact to the public or the environment.

The proposed project would use hazardous materials in small quantities 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. In addition, the applicant would implement procedures and safety features and precautions that would reduce the risk of an accidental hazardous materials release. Therefore, the impact from the use, transport,

disposal, or accidental release of hazardous materials would not be cumulatively significant.

Hydrology and Water Quality

Less Than Significant Impact. The project would be required to comply with the Municipal NPDES Permit and the Santa Clara Valley Urban Runoff Pollution Prevention Program. The NPDES permit and the urban runoff pollution prevention program work together to establish specific requirements to reduce storm water pollution from new and redevelopment projects, singularly and cumulatively. With the implementation as described in **Section 4.10 Hydrology and Water Quality**, 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.

Land Use and Planning

Less Than Significant Impact. The project site is designated Light Industrial (ML), which includes data centers as an allowable use. The height of the proposed data center would exceed the permitted height for the ML zoning district (City Code Section 18.48.070). The city's Zoning Administrator has the authority to grant a minor modification to height, area, and yard regulations, provided that the minor modification does not exceed 25 percent of any zoning requirement (City Code Section 18.90.020). The city's granting of a minor modification in ML zoning requirements for height 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.

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 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 Santa Clara Fire Department reviewed the project plans to ensure appropriate safety features have been incorporated to reduce fire hazards and will review the final site design prior to the issuance of land use and building permits. The Santa Clara Police Department reviewed the project plans and provided comments and conditions of approval for land use and building permits related to incorporating safety and security measures into the site design.

In accordance with Government Code Section 65996, the project would be required to the appropriate school impact fees to Santa Clara Unified School District. The operation of the project is anticipated to require a total of 19-21 employees. Given the availability of an existing workforce throughout the Bay Area, employees are likely to currently reside within commuting distance of the project site and would not need to relocate closer to

the project. Even if all 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 to maintain acceptable service ratios or other performance objectives. The project's impacts to public services would not be cumulatively considerable.

Recreation

Less Than Significant Impact. As discussed in **Section 4.16 Recreation**, the project does not require or propose the construction or expansion of recreation facilities. The operation of the project would require a total of 19-21 employees. The project's operation workforce would be consistent with growth projects 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.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant with Mitigation Incorporated. 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 the implementation of **AQ-1** to control emissions during project construction and NOx emissions fully offset for engine testing and maintenance, the project would result in a less-than-significant impact related to human health. As discussed in **Section 4.7 Geology and Soils**, the implementation of seismic design guidelines in the current California Building Standards Code and project-specific recommendations in a final geotechnical engineering report, as required by **GEO-1**, would ensure the project would not expose people or property to significant impacts associated with geologic or seismic conditions onsite. The project would result in temporary noise impacts to humans during construction and intermittently during operation. As discussed in **Section 4.13 Noise**, with the implementation of **NOI-1**, the project's noise impacts during project construction and operation would be less than significant. As discussed in **Section 4.9 Hazards and Hazardous Materials**, with the implementation of **HAZ-1**, hazards and hazardous material impacts would be less than significant. 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 project operation.

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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 proposed 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, pg. 4).

The "Environmental Justice in the Energy Commission Site Certification Process" subsection immediately below describes why EJ is part of the California Energy Commission's (CEC's) site certification process, the methodology used to identify an EJ population, and the consideration of data from the California Environmental Protection Agency's (CalEPA) California Communities Environmental Health Screening Tool (CalEnviroScreen 4.0). 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 the presence or absence of an EJ population. When an EJ population is identified, the analysis in 10 technical areas[1] and Mandatory Findings of Significance consider the project's impacts on this population and whether any impacts would disproportionately affect the EJ population. Lastly, the "Project Outreach" subsection discusses the CEC's outreach program specifically as it relates to the proposed project.

Environmental Justice in the CEC Site Certification Process

President Clinton's 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.

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.

The California Natural Resources Agency recognizes that EJ communities are commonly identified as those where residents are predominantly minorities or live below the poverty level; where residents have been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations, requirements, practices, and activities in their communities. Environmental justice efforts attempt to address the inequities of environmental protection in these communities.

An EJ analysis is composed of all 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 and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Gov. Code, § 65040.12; see also Pub. Resources Code, §§ 71110-71118). All departments, boards, commissions, conservancies, and special programs of the California Natural 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;
- M=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.

Bay Area Air Quality Management District Community Health Programs

The project site is located within the Bay Area Air Quality Management District (BAAQMD). BAAQMD has community health programs intended to reduce air pollution disparities in the San Francisco Bay Area.

The Community Air Risk Evaluation (CARE) program identified areas in the San Francisco Bay Area where air pollution disparities are most significant and where populations are most vulnerable to air pollution. Information from the CARE program has been used to design and focus effective mitigation measures in these areas (BAAQMD 2022). The project site is not located in a CARE community.

The Community Health Protection Program is BAAQMD's local implementation of the California Air Resources Board's (CARB) Community Air Protection Program, as enacted by Assembly Bill (AB) 617(C. Garcia, Chapter 136, Statutes of 2017). The statewide Community Air Protection Program requires CARB to develop a new community-focused program to reduce exposure more effectively to air pollution and preserve public health and to take measures to protect communities disproportionally impacted by air pollution. CARB is required to select the highest priority locations in the state for the deployment of community air monitoring systems and select locations around the state for the preparation of community emissions reduction programs. CARB has initially selected seven communities for a community emissions reduction program, and the project site is not located in an AB 617 community.

CalEnviroScreen - More Information About an EJ Population

CalEnviroScreen is a science-based mapping tool used by CalEPA to identify disadvantaged communities[2] pursuant to Health and Safety Code section 39711 as enacted by Senate Bill (SB) 535 (De León, Stats. 2012 Ch. 830). As required by state law, disadvantaged communities are identified based on geographic, socioeconomic, public health, and environmental hazard criteria. CalEnviroScreen identifies impacted communities by taking into consideration pollution exposure and its effects, as well as health and socioeconomic status, at the census-tract level. (OEHHA 2021, pg. 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 indicators.

The CalEnviroScreen 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 (CalEPA, 2021 pg. 8). CalEnviroScreen scores are calculated by combining the individual indicator scores within each of the four components, then multiplying the Pollution Burden and Population Characteristics groups scores to produce a final score (Pollution Burden X Population Characteristics = CalEnviroScreen Score). (CalEPA 2017, pg. 3) Each group has a maximum score of 10, and, thus, the maximum CalEnviroScreen score is 100. Based on these scores, census

2 The California Environmental Protection Agency, for the 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).

tracts across California are ranked relative to one another (OEHHA 2021, pg. 13). 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. A percentile does not describe the magnitude of the difference between two tracts, but rather it simply tells the percentage of tracts with lower values for that indicator (CalEPA 2021, pg. 20).

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 particulate matter (PM) emissions, low birth weight infants, ozone concentrations, pesticide use, PM with diameters of 2.5 micrometers or smaller (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.

Note that CalEnviroScreen is not intended to:

- 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; or,
- Guide all public policy decisions.

Project Outreach

As a part of the U.S. EPA's definition of EJ, meaningful involvement is an important part of the siting process. Meaningful involvement occurs when:

- Those whose environment and/or health would be potentially affected by the decision on the proposed activity have an appropriate opportunity to participate in the decision;
- The population's contribution can influence the decision;
- The concerns of all participants involved will be considered in the decision-making process; and,

The Office of the Public Advisor, Energy Equity and Tribal Affairs outreach consists of emails to state and local elected officials, environmental justice organizations, local chambers of commerce, schools, and school districts, interested public, labor unions and trade associations, community centers, daycare centers, park departments, and religious organizations within a six- and twelve-mile radius of the proposed project.

The CEC staff (staff) docketed and mailed to the project mail list, including EJ organizations and similar interest groups, a Notice of Receipt of the CA3 Backup Generating Facility SPPE on July 15, 2021. Based on current U.S. Census English fluency data for the population residing in the cities and communities within a six-mile radius of the project site, translation of project notices was deemed appropriate. U.S. Census data also showed that of those who report they "Speak English less than very well," the predominant languages spoken were Spanish, Chinese, and Vietnamese. In addition, CalEnviroScreen data for the two disadvantaged community census tracts within a six-mile radius of the project showed the linguistic isolation population characteristic with a percentile of 90 and above. The CalEnviroScreen data supports the U.S. Census language fluency data, showing that the population living in this immediate project area are linguistically isolated and translation is warranted. Public notices for the project were

published in local newspapers in English, Spanish, Chinese, and Vietnamese on July 30, 2020.

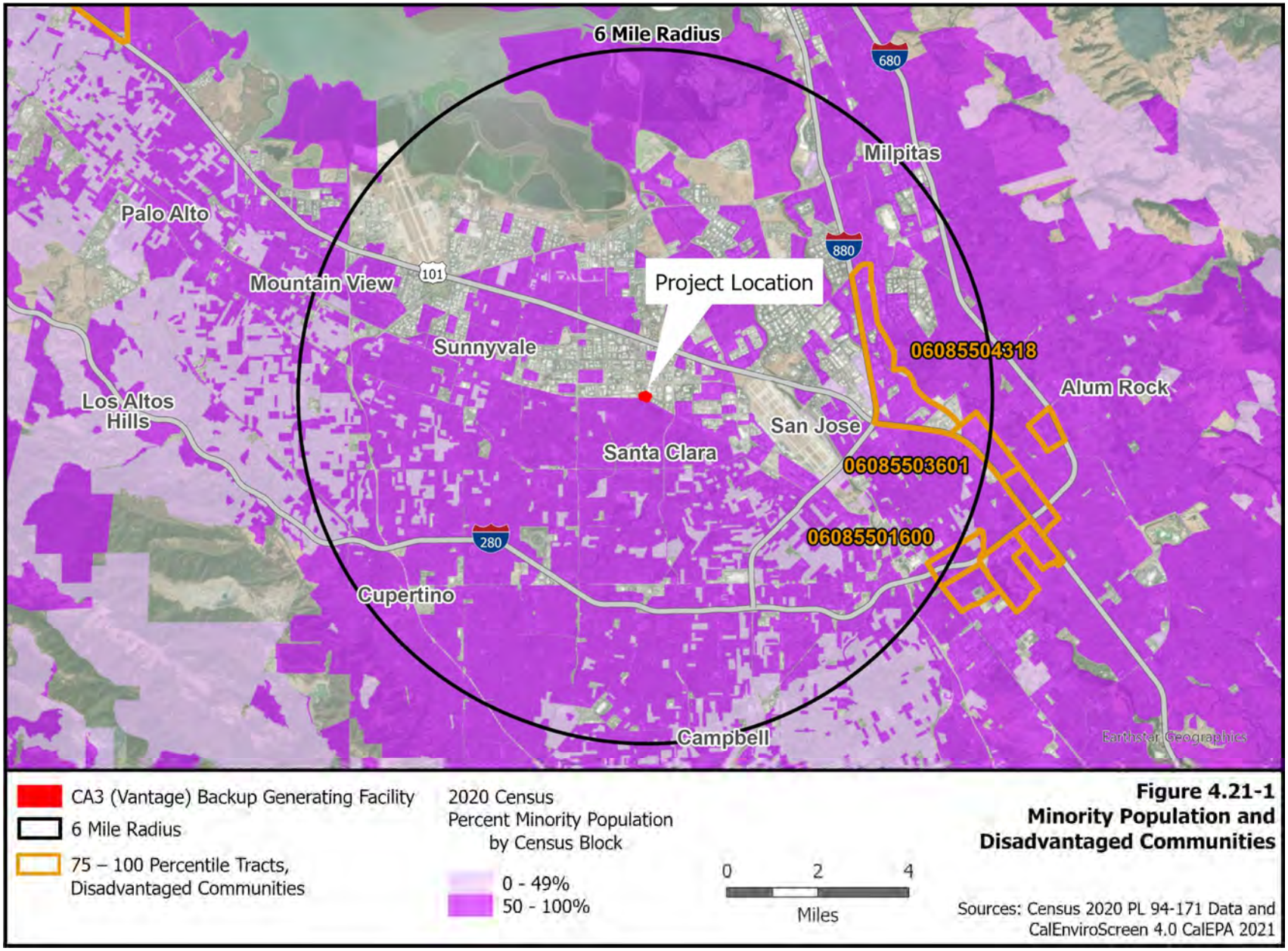
Staff conducted outreach and consultation with regional tribal governments as described in **Section 4.5 Cultural and Tribal Cultural Resources**.

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 the 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 school districts of Campbell Union, Luther Burbank Elementary, San Jose Unified, and Santa Clara Unified (in a six-mile radius of the project site) that are enrolled in the free or reduced-price meal program is larger than the percentage of those in the reference geography (Santa Clara County) that are enrolled in these programs. Thus, the population in these school districts are considered an EJ population based on a low income as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.


6 Mile Radius
680
Milpitas
Palo Alto
880
101
Mountain View
Project Location
Sunnyvale
06085504318
Alum Rock
Los Altos Hills
San Jose
Santa Clara
06085503601
280
06085501600
Cupertino
Campbell
Earthstar Geographics
CA3 (Vantage) Backup Generating Facility
6 Mile Radius
75 – 100 Percentile Tracts, Disadvantaged Communities
2020 Census
Percent Minority Population
by Census Block
0 - 49%
50 - 100%
0
2
4
Miles
Figure 4.21-1
Minority Population and Disadvantaged Communities
Sources: Census 2020 PL 94-171 Data and CalEnviroScreen 4.0 CalEPA 2021

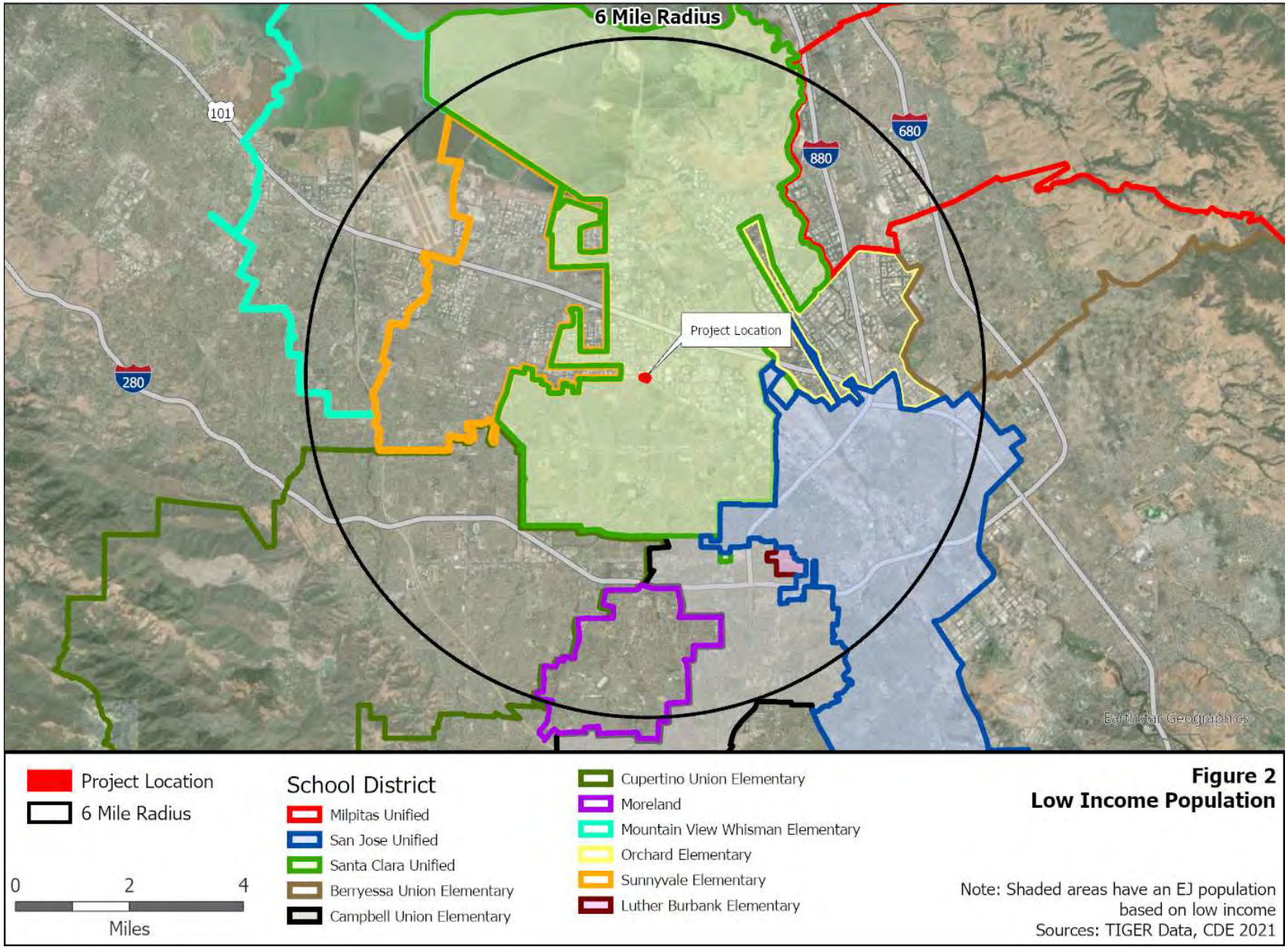


Figure 2
Low Income Population

Note: Shaded areas have an EJ population based on low income
Sources: TIGER Data, CDE 2021

TABLE 4.21-2 LOW INCOME DATA WITHIN THE PROJECT AREA			
School Districts in a Six-Mile Radius of the Project Site	**Enrollment Used for Meals**	**Free or Reduced-Price Meals**	
Berryessa Union Elementary	6,534	1,765	27.0%
Campbell Union	**6,622**	**2,721**	**41.1%**
Cupertino Union Elementary	15,663	885	5.7%
Luther Burbank Elementary	**475**	**397**	**83.6%**
Milpitas Unified	10,413	2,887	27.7%
Moreland	4,364	1,014	23.2%
Mountain View Whisman	4,753	1,315	27.7%
Orchard Elementary	815	219	26.9%
San Jose Unified	**28,710**	**10,622**	**37.0%**
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%

Note: **Bold** indicates school districts considered having an EJ population based on low income**.**
Source: 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 **Figure 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 communities 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**
06085504318	6,095	80.06	88.82	63.28
06085503601	3,383	85.36	84.12	76.94
06085501600	7,716	85.01	77.80	81.48

Note: Disadvantaged communities by census tract in the project's 6-mile radius. Source: CalEPA 2021

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, must exist.

4 The California Environmental Protection Agency (CalEPA), for purposes of its Cap-and-Trade Program, has designated *disadvantaged communities* as census tracts having a CalEnviroScreen score at or above the 75th percentile (CalEPA 2017). As a comparative screen tool, it is not intended to be used as a health or ecological risk assessment for a specific area.

Table 4.21-4 presents the CalEnviroScreen percentiles for the indicators that make up the pollution burden percentile. Where percentiles for CalEnviroScreen indicators are 90 and above, the percentile is shown in bold. These relatively higher percentiles could be seen as drivers for the census tract's identification as a disadvantaged community. There are 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 CalEnviroScreen percentiles for the indicators that make up the population characteristics. There are no census tracts where the population characteristics burden percentile is 90 or above and three census tracts where individual population characteristic indicators are in the 90 or above percentile.

TABLE 4.21-4 CALENVIROSCREEN INDICATOR PERCENTILES FOR POLLUTION BURDEN FOR DISADVANTAGED COMMUNITIES

	Percentiles for Census Tracts		
	06085504318	06085503601	06085501600
Pollution Burden	88.82	84.12	77.80
Ozone	20.85	20.85	20.85
PM2.5	33.71	35.76	37.13
Diesel PM	**90.49**	**91.50**	**95.13**
Drinking Water	22.74	22.74	22.74
Lead	52.73	**93.48**	83.20
Pesticides	4.97	0.00	0.79
Toxic Release	39.48	33.02	32.10
Traffic	**94.31**	**91.00**	79.25
Cleanup Sites	**99.74**	81.02	50.56
Groundwater Threats	**96.73**	62.49	**91.57**
Hazardous Waste	**99.85**	**91.36**	65.18
Impaired Water Bodies	33.16	33.16	43.78
Solid Waste	**99.77**	84.74	77.96

Notes: Disadvantaged communities by census tract in the project's 6-mile radius. **Bold** indicates a percentile is 90 or above. Source: CalEPA 2021

TABLE 4.21-5 CALENVIROSCREEN INDICATOR PERCENTILES FOR POPULATION CHARACTERISTICS FOR DISADVANTAGED COMMUNITIES

	Percentiles for Census Tracts		
	06085504318	06085503601	06085501600
Population Characteristics	63.28	76.94	81.48
Asthma	36.05	73.54	72.98
Low Birth Weight	71.79	77.05	**91.34**
Cardiovascular Disease	28.12	53.39	39.71
Education	78.63	79.42	63.76
Linguistic Isolation	**95.72**	**95.03**	67.45
Poverty	59.52	78.45	80.28
Unemployment	78.97	21.11	64.51
Housing Burden	46.02	63.23	**94.47**

Notes: Disadvantaged communities by census tract in the project's 6-mile radius. **Bold** indicates a percentile is 90 or above. Source: CalEPA 2021

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.

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 any of the following true:

- The project, if in an "urbanized area" as defined in 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 or glare that adversely affects day or nighttime views in the area.

As discussed in **Section 4.1 Aesthetics**, 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, and topographic and other maps in addition to the EJ section EJ figures and concludes the nearest EJ population would have a restricted public view from Bracher Park. The project's capability of being seen in the landscape from the public park rates moderate to high. It would be plainly visible and could not be missed by the casual observer from views in the general direction of the project. However, it would not strongly attract visual attention or dominate views because of apparent size and due to the existence of aboveground landscape components (buildings, structures, earthworks, trees, etc.) including the movement of passenger cars along the Caltrain corridor. The proposed project landscaping would aid in obstructing the view.

5 Public Health concern discussed under Air Quality.

The project design includes directional and shielded light fixtures to keep lighting onsite. The project design includes installing LED lighting throughout the project site. Project components would have no to low reflectivity offsite.

The project would have a less than significant effect on aesthetics and would not have a disproportionate effect to an EJ population.

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 air pollutants, such as ozone, PM2.5, and nitrogen dioxide (NO_2), are indicators related to air quality. Indicators that are associated with protecting public health are: Diesel PM, Pesticide Use, Toxic Release from Facilities, Traffic Density, Asthma, 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 CARB and the U.S. EPA are authorized to set AAQS.

Staff identified the potential air quality impacts (i.e., ozone and PM2.5) that could affect the EJ population represented in **Figures 4.21-1** and **4.21-2**. Staff also examined individual contributions of indicators in CalEnviroScreen that are relevant to air quality (see **Table 4.21-4**).

Staff identified the potential 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 public health risks were evaluated quantitatively based on the most sensitive population, which includes the EJ population, by conducting a health risk assessment (HRA). The results were presented by levels of risk. The potential construction and emergency backup generator (gensets) readiness testing and maintenance risks are associated with exposure to diesel PM.

In **Section 4.3 Air Quality**, staff concludes that, with the implementation of mitigation measure **AQ-1** and oxides of nitrogen (NOx) emissions fully offset through the permitting process with BAAQMD, the project would not have a significant impact on air quality or public health. Criteria air pollutants would not cause or contribute substantially to exceedances of health-based ambient standards and the project's toxic air emissions would not exceed health risk limits. 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**.

The text below addresses each of the air quality and public health indicators included in **Tables 4.21-4** and **4.21-5**.

Ozone Impacts

Ozone is known to cause numerous health effects, which can potentially affect EJ communities as follows:

- Lung irritation, inflammation and exacerbation of existing chronic conditions, even at low exposures (Alexis et al. 2010, Fann et al. 2012, Zanobetti and Schwartz 2011);
- Increased risk of asthma among children under two 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-Ramón and Schwartz 2008).

Even though ozone is not directly emitted from emission sources such as the gensets, precursor pollutants that create ozone, such as NOx and volatile organic compounds (VOCs), would be emitted. The NOx emissions of the gensets during readiness testing and maintenance would be required to be fully offset through the BAAQMD permitting process. 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 mean of the daily maximum eight-hour ozone concentration (ppm) for the summer months (May-October), averaged over three years (2017-2019). According to CalEnviroScreen data, census tracts are ordered by ozone concentration values, and then are assigned a percentile based on the statewide distribution of values.

Results for ozone are included in **Table 4.21-4**. Ozone levels in the three census tracts within a six-mile radius of the project site are relatively low, with percentiles around 21. Another way to look at the data is that approximately 79 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 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. The project's impacts would not be expected to cause an exceedance of AAQS during readiness testing and maintenance. NOx emissions resulting from readiness testing and maintenance would be high enough to trigger offset requirements due to BAAQMD Regulation 2, Rule 2. Therefore, the NOx emissions would need to be fully offset to reduce net impacts to levels below the BAAQMD's CEQA threshold. VOC emissions would be below the BAAQMD's threshold of significance and the applicant would not be required to offset them. Therefore, the project would not contribute significantly to regional ozone concentrations, relative to baseline conditions.

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 gensets 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

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, $\mu g/m^3$), averaged over three years (2015-2017). According to CalEnviroScreen data, census tracts 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 within the six-mile radius of the project site are similar, with percentiles being 33.71, 35.76, ad 37.13 for census tracts 6085504318, 6085503601, and 6085501600, respectively, the highest percentile is from census tract 6085501600. Census tract 6085501600 was at the 37.13 percentile in the PM2.5 category (see **Table 4.21-4**). This indicates that PM concentrations in this census tract are higher than 37.13 percent of tracts statewide. This means 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 not expose sensitive receptors to substantial pollutant concentrations of PM2.5 during construction or the readiness testing and maintenance of the gensets. The project would use BMPs during construction, which would reduce PM emissions. The gensets would be equipped with diesel PM filters, which would reduce PM emissions from the engines. Therefore, the project would not contribute significantly to regional PM2.5 concentrations, relative to baseline conditions.

The project's PM2.5 air quality impacts would be less than significant for the local EJ community and the general population. Additionally, as NOx emissions of the gensets would be fully offset, the project would not result in cumulatively considerable net increase of secondary pollutants, such as PM, in the air basin.

NO_2 Impacts

Section 4.3 Air Quality includes an additional assessment of other criteria air pollutant impacts, including NO_2 impacts. Staff's analysis indicates that the project would not cause adverse NO_2 impacts during construction or readiness testing and maintenance. The project's NO_2 air quality impacts would be less than significant for the local EJ community and the general population.

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, all are higher than the 90th percentile. They are 95.13, 91.5, and 90.49 (in census tracts 06085501600, 06085503601, and 06085504318, respectively), meaning these three are higher than 95.13, 91.5 and 90.49 percent of the census tracts in California.

However, according to the results of the HRA conducted for this project in **Section 4.3 Air Quality**, impacts associated with diesel PM from the proposed project construction and readiness testing and maintenance activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to the diesel PM levels in the disadvantaged communities. Therefore, the project's diesel PM impacts would be less than significant for the local EJ community and the general population.

Pesticide Use

Specific pesticides included in the Pesticide Use 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 tract 06085504318 was at 4.97 percentile, census tract 06085501600 was at 0.79 percentile, and census tract 06085503601 was at zero 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. Therefore, the project's pesticide use would be less than significant for the local EJ community and the general population.

Toxic Releases from Facilities

This indicator represents modeled 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 similar, with the percentiles being 39.48, 33.02, and 32.10 for census tracts 06085504318, 06085503601, and 06085501600, respectively. The highest percentile is from census tract 6085504318, indicating that toxic release from facilities threats in this census tract (6085504318) is higher than 39.48 percent of tracts statewide. This also indicates that these communities are lower than the state average for exposure to toxic releases.

According to the results of the HRA conducted for the project in **Section 4.3 Air Quality**, impacts associated with toxic releases from construction and readiness testing and maintenance activities (diesel-fueled equipment) would be less than significant. The project would not have a significant cumulative contribution to toxic releases. Therefore, the project's toxics emissions would be less than significant for the local EJ community and the general population.

Traffic Density

This indicator represents the sum of traffic volumes adjusted by road segment length. It is calculated 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 that among these three census tracts, two are higher than the 90th percentile. The highest percentiles are 94.31 and 91 (in census tracts 06085504318 and 06085503601, respectively), meaning these two are higher than 94.31 and 91 percent of the census tracts in California. The percentile of census tract 06085501600 is at the 79.25 percentile. Traffic impacts are related to the diesel PM emitted from diesel-fueled vehicles.

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. However, according to the results of the HRA 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. Therefore, 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.

Table 4.21-5 shows census tract 06085503601 was at the 73.54 percentile in the Asthma category. This indicates the number of emergency department visits for asthma per 10,000 people over the years 2015 to 2017 are higher than 73.54 percent of tracts statewide. Census tract 06085501600 was slightly lower, at the 72.98 percentile. This indicates that these two communities have above average numbers of emergency room 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 HRA conducted for the project in **Section 4.3 Air Quality**, impacts associated with emissions from construction, and readiness testing and maintenance activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to asthma ED visits. Therefore, 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.

Among these three census tracts, Census Tract 06085501600 has the highest potential relative burden. The low birth-weight percentile for this census tract is 91.34, meaning the percent low birth weight is higher than 91.34 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 are also higher than the state average of low birth-weight infants.

The HRA of the project in **Section 4.3 Air Quality** was based on a highly conservative health-protective methodology that accounts for impacts on the most sensitive individuals in a population. According to the results of the assessment, the risks at the maximally exposed sensitive receptors (i.e., the maximally exposed individual resident [MEIR], maximally exposed school receptor [MESR], maximally exposed daycare receptor [MEDR], and the maximally exposed recreational receptor [MERR]) would be 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. The project's emissions would not have a significant cumulative

contribution to low birth-weight infant births for the local EJ community and the general population.

Cardiovascular Disease

This indicator represents the rate of heart attacks. It measures the number of ED visits for acute myocardial infarction (AMI) (or heart attack) per 10,000 people over the years 2015 to 2017.

Table 4.21-4 shows three census tracts are with the percentiles being 28.12, 53.39, and 39.71 for census tracts 06085504318, 06085503601, and 06085501600, respectively. The highest percentile is from census tract 06085503601, indicating the number of emergency department visits for AMI per 10,000 people over the years 2015 to 2017 is higher than 53.39 percent of tracts statewide. This also indicates that this community is about the average number of emergency department visits for AMI compared to the rest of the state.

According to the results of the HRA conducted for the project in **Section 4.3 Air Quality**, impacts associated with emissions from construction and readiness testing and maintenance activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to cardiovascular disease. The project's emissions would not have a significant cumulative contribution to cardiovascular disease for the local EJ community and the general population.

Cultural and Tribal Cultural Resources

No Impact. Staff did not identify any Native American EJ populations that either reside within six miles of the project or that rely on any subsistence resources that could be impacted by the proposed project.

Hazards and Hazardous Materials

Less Than Significant Impact. An EJ population 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 gensets is the hazardous material that the project site would have in greatest quantity. The total quantity would be divided up and stored in many separate double-walled fuel tanks (one for each genset) with proper spill controls. Therefore, the likelihood of a spill of sufficient quantity to impact the surrounding community and EJ population would be very small, and, thus, the impact on the EJ community would be 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 the 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 tract 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 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 greater than 1,000 meters (0.6 mile). As **Figure 4.21-1** shows, there are no disadvantaged census tracts within 1,000 meters from the project. Therefore, impacts to Hydrology and Water Quality would not introduce an additional burden to an EJ population and would be less than significant.

Land Use and Planning

Less Than Significant Impact. A disproportionate land use impact on an EJ population could occur if a project would physically divide the established community of an EJ population or if a project in proximity to an EJ population conflicts with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental impacts on a population. The primary purpose of planning is to protect the public health, safety, and welfare. Incompatible land uses may create health, safety, and welfare issues for the community.

Staff concludes the project would not divide an existing community as the project is proposed on a parcel of land that was previously developed for industrial use. The project would not introduce a new barrier or otherwise restrict public access within the community.

The project site is in the Light Industrial (ML) zoning district. The maximum permitted building height in the ML zoning district is 70 feet. The height of the proposed data center building would be 87.5 feet from the grade to the highest point of the parapet coping of the flat roof. The project would be eligible for a minor modification in ML zoning

requirements for height, and, with the city's approval of the minor modification, the project would conform to zoning. The project's floor area ratio (FAR) would exceed the maximum FAR for the zoning district. However, as is typical of data center projects, the project would have a low employment density relative to the size of its data center building. With its low employment density, the project would not cause the types of environmental impacts sometimes attributed to projects with high employment densities due to a commensurate increase in vehicle miles traveled. The project would not cause environmental impacts associated with the FAR exceedance, including no disproportionate impacts on an EJ population.

As discussed in section **4.11 Land Use and Planning**, the project would not conflict with land use plans or policies such that significant environmental impacts would occur. The overall impact would be less than significant, including potential disproportionate impacts on an EJ population.

Noise

Less Than Significant with Mitigation Incorporated. 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. The nearest sensitive receptors are residences approximately 200 feet south of the project site's property line, across from the Caltrain rail line.

Construction activities would increase existing noise levels at the adjacent industrial land uses and the nearby residences identified above, but they would be temporary and intermittent. Staff proposes mitigation measure **NOI-1**, requiring a complaint and redress process be implemented to ensure construction noise impacts would not be significant, as perceived by the community. With this, impacts would be reduced to less than significant. In addition, construction would occur during the daytime hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and between 9:00 a.m. to 6:00 p.m. on Saturday, and prohibited on Sundays and holidays, in compliance with the city of Santa Clara City Code.

Therefore, potential noise effects related to construction would not result in a significant noise impact on the area's population, including the EJ population.

Sources of operational noise for the project would include the gensets, rooftop mechanical equipment. including HVAC and other equipment necessary for project operation. The City Code requires existing and new industrial development to reduce the effects of operational noise on adjacent properties through compliance with noise standards (Sections 9.10.040). Since the project is near a residential land use, noise reduction measures, such as mechanical equipment screening and enclosures, would be included (these measures have been incorporated in the operational noise modeling). Thus, the operation of the project would have a less than significant noise impact for all the of 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 the cities of Santa Clara, Campbell, Mountain View, San Jose, and Sunnyvale, and the county of Santa Clara , 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 the project site. There is a sufficient local construction workforce in the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area (MSA) to accommodate the projected needs of the project, and, thus, workers would not likely seek temporary lodging closer to the project site. The local workforce in the MSA is sufficient to accommodate the permanent labor needs projected for the project, and, thus, operation workers 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. An impact to bus transit, pedestrian facilities, or bicycle facilities could cause disproportionate impacts to low-income communities, as low-income residents more often use these modes of transportation. However, as concluded in **Section 4.17 Transportation** all transportation impacts, including impacts to alternative transportation, would be less than significant, and, therefore, would cause less than significant impacts to EJ populations. Likewise, transportation impacts would not be disproportionate.

Utilities and Service Systems

Less Than Significant Impact. Disproportionate impacts to 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 service systems. 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 tract 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 decreases with distance from the census tract. The weighting factor for stationary stressors more than 1,000 meters (0.6 mile) away from a census tract is zero. As **Figure 4.21-1** shows, there are no disadvantaged census tracts within 1,000 meters from the project. Therefore, no stressor under Utilities and Service Systems is close enough to create an additional burden to an EJ population and, therefore, the project impact on EJ communities would be less than significant.

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
Mark Hamblin	Aesthetics impact analysis
Wenjun Qian	Air Quality (public health) impact analysis
Melissa Mourkas, Gabriel Roark	Cultural and Tribal Cultural Resources impact analysis
Abdel-Karim Abulaban	Hazards and Hazardous Materials impact analysis
Abdel-Karim Abulaban	Hydrology and Water Quality impact analysis
Tatiana Inouye	Land Use and Planning impact analysis
Kenneth Salyphone	Noise impact analysis
Scott Debauche	Population and Housing impact analysis
Abdel-Karim Abulaban	Utilities and Service Systems impact analyses
Scott Debauche	Transportation impact analysis

4.21.3 Mitigation Measures

None.

4.21.4 References

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CA3 BACKUP GENERATING FACILITY SMALL POWER PLANT EXEMPTION

Committee Proposed Decision

Part 4 of 4

CALIFORNIA
ENERGY COMMISSION
Gavin Newsom, Governor

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Section 5

Alternatives

5 Alternatives

5.1 Introduction

This section evaluates a reasonable range of potentially feasible alternatives to the CA3 Data Center/Backup Generating Facility (CA3DC/CA3BGF). Both together are known as CA3 or the project. Alternatives considered but dismissed for full analysis due to reliability concerns include biodiesel fuel, fuel cells, and battery energy storage systems. Alternatives selected for more detailed analysis were limited to the "No Project/No Build Alternative," as required by the California Environmental Quality Act (CEQA), and those that could feasibly attain most of the proposed project's basic objectives while reducing or avoiding any of its significant effects. The alternatives selected for detailed analysis are:

- Alternative 1: No Project/No Build Alternative
- Alternative 2: Renewable Diesel Fuel
- Alternative 3: Natural Gas Internal Combustion Engines

5.2 CEQA Requirements

CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) require that an EIR consider and discuss alternatives to the proposed project. Section 15126.6 of the CEQA Guidelines provides that the alternatives analysis must include all of the following:

- 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)). In addressing the 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)).

The range of potentially feasible alternatives selected for analysis is governed by a "rule of reason," requiring the evaluation of only those alternatives "necessary to permit a reasoned choice" (Cal. Code Regs., tit. 14, § 15126.6, subd. (f)). Also, 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 impacts of the "No Project" alternative. 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 overall project goal is to develop a state-of-the-art data center providing greater than 99.999 percent reliability for its customers, with mission-critical space to support their servers, including space conditioning and a steady stream of high-quality power supply. The applicant's project objectives are as follows:

- Develop a state-of-the-art data center large enough to meet projected growth;
- Develop the data center on land that has been zoned for data center use at a location acceptable to the City of Santa Clara;
- Develop a data center that can be constructed in two phases, which can be timed to match projected customer growth; and
- Incorporate the most reliable and flexible form of backup electric generating technology considering the following evaluation criteria:
    - Commercial Availability and Feasibility. The selected backup electric generation technology must currently be in use and proven as an accepted industry standard for technology sufficient to receive commercial guarantees in a form and amount

acceptable to financing entities. It must be operational within a reasonable timeframe where permits and approvals are required.

- Technical Feasibility. The selected backup electric generation technology must utilize systems that are compatible with one another.
- Reliability. The selected backup electric generation technology must be extremely reliable in the case of an emergency loss of electricity from the utility.
  - The CA3BGF must provide a higher reliability than 99.999 percent in order for the CA3DC to achieve an overall reliability of equal to or greater than 99.999 percent reliability.
  - The CA3BGF must provide reliability to the greatest extent feasible during natural disasters, including earthquakes.
  - The selected back-up electric generation technology must have a proven built-in resilience so if any of the back-up unit fails due to external or internal failure, the system will have redundancy to continue to operate without interruption.
  - The CA3DC must have on-site means to sustain power for 24 hours minimum in failure mode, inclusive of utility outage.

5.4 Reliability and Risk Factors

The most important data center criterion is reliability. Crucial services, such as 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 underwrite only proven technologies with an 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 a 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 utility power failure.

5.5 Environmental Impacts of the Proposed Project

This EIR evaluates the potential environmental impacts of the proposed project. Project impacts would be less than significant with the following proposed mitigation measures:

- **Air Quality** – Proposed mitigation measure **AQ-1** would reduce air quality impacts during project construction. This measure requires the incorporation of the local air

district's best management practices to control fugitive dust. This measure also incorporates exhaust control measures to reduce emissions from construction equipment. During readiness testing and maintenance, the oxides of nitrogen (NOx [as an ozone precursor]) emissions of the standby generators would be fully offset through the permitting process with the Bay Area Air Quality Management District (BAAQMD). With the implementation of **AQ-1** during construction and NOx offsets for readiness testing and maintenance through the local air district's permitting requirements, the project would not cause a cumulatively considerable net increase of any criteria air pollutant and impacts would be reduced to less than significant with mitigation incorporated.

- **Biological Resources** – Proposed mitigation measure **BIO-1** would ensure that potential construction impacts to protected bird and raptor species would be less than significant. **BIO-1** includes requirements to conduct tree removal outside the nesting period if possible, to conduct nesting bird surveys prior to the initiation of any construction activities during the nesting period, and to establish buffers to avoid the disturbance of nesting birds if active nests are detected.

  Proposed mitigation measure **BIO-2** would reduce construction impacts to protected bat species, if present at the site, to less than significant. **BIO-2** includes requirements to conduct bat clearance surveys prior to the demolition of buildings or removal of trees. It also requires the development of a Bat Mitigation and Monitoring Plan detailing exclusion methods, roost removal procedures, and compensatory mitigation methods for the permanent impacts of roost removal.

  The implementation of mitigation measures **BIO-3** and **BIO-4** would reduce construction impacts on trees covered by city of Santa Clara General Plan policies 5.10.1-P4 and 5.3.1-P10 to less than significant. **BIO-3** requires the applicant to obtain the appropriate tree removal permits from the city of Santa Clara for the removal of all healthy mature trees and mitigate for tree removal as required by the city. **BIO-4** requires the applicant to implement tree protection measures for the trees that are to remain in place as required by the city of Santa Clara through its tree removal permits and Architectural Review.

- **Cultural and Tribal Cultural Resources** – Proposed mitigation measure **CUL-1** requires qualified professionals to survey the exposed ground surface for cultural resources once the demolition of existing structures is complete. It also requires test excavation to determine the presence or absence of buried cultural resources and procedures for avoidance measures and construction monitoring. This measure would reduce impacts to any discovered historical resources and unique archaeological resources to a less than significant level. In addition to mitigation measure **CUL-1**, mitigation measure **CUL-2** requires specific protocols to minimize or avoid impacts on inadvertently discovered human remains. Combined, mitigation measures **CUL-1** and **CUL-2** would reduce potential impacts to human remains to a less than significant level.

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/or 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. The implementation of **CUL-1** and **CUL-2** would reduce potential impacts to buried, tribal cultural resources to a less-than-significant level.

- **Geology and Soils** – With the implementation of mitigation measure **GEO-1**, potential impacts to paleontological resources from trenching would be reduced to a less-than significant level. **GEO-1** includes protocols for worker training to identify potential fossil finds, notification of a qualified paleontologist to assess any finds, and if the resource is considered to be significant, development by the paleontologist of a plan for preservation and mitigation.
- **Greenhouse Gas Emissions** – This project would have a less than significant impact on greenhouse gas (GHG) emissions with the implementation of mitigation measures **GHG-1**, **GHG-2**, and **GHG-3**. **GHG-1** would require the applicant to limit the GHG emissions of the standby generators to the BAAQMD CEQA GHG threshold applicable at the time of permitting. **GHG-2** would require the applicant to use an increasing mix of renewable diesel and phase out the use of petroleum-based conventional diesel (conventional diesel). **GHG-3** would require the applicant to participate in Silicon Valley Power's (SVP) Large Customer Renewable Energy (LCRE) Program or other renewable energy program that accomplishes the same objective as SVP's LCRE Program for 100 percent carbon-free electricity or purchase ~~carbon offsets~~ renewable energy credits or similar instruments that accomplish the same goals of 100 percent carbon-free electricity. The implementation of **GHG-1**, **GHG-2**, and **GHG-3** would ensure the project complies with the BAAQMD CEQA GHG threshold, the city of Santa Clara Climate Action Plan, and other applicable regulatory programs and policies. Accordingly, staff concludes that with the implementation of **GHG-1**, **GHG-2**, and **GHG-3**, the project's GHG emissions would not have a significant direct or indirect impact on the environment. With the implementation of **GHG-1**, **GHG-2**, and **GHG-3**, impacts related to GHG emissions would be less than significant.
- **Hazards and Hazardous Materials** – With the implementation of **HAZ-1**, construction of the project would result in less than significant impacts to the public and the environment from hazards and hazardous materials. **HAZ-1** would require the preparation of a Site Management Plan (SMP), which would establish procedures for handling any contaminated groundwater or soil found during construction to minimize health risks. Records would be maintained for documenting compliance with the storage and handling of hazardous materials, and personnel would be required to follow health and safety procedures in the event of a release of hazardous materials.

  With the implementation of **HAZ-1**, construction of the project would create a less than significant impact to the public or the environment.
- **Noise** – The loudest construction activities could elevate the existing ambient noise levels at the nearest residences by up to 11 dBA and could be perceived as noisy,

although they would be less noisy than passing trains. The implementation of **NOI-1**, requiring a noise complaint and redress process, would ensure construction noise impacts as perceived by the community would be less than significant.

- **Transportation** – The operation of the project would generate vehicle miles travelled (VMT) that would exceed the city's thresholds. **TRANS-1** would require the implementation of a Transportation Demand Management (TDM) program requiring a 4-40 workweek (40 hours in 4 days) to reduce the project VMT to a level below the city's threshold. This would ensure that VMT generated by the project would be less than significant.

5.6 Alternatives Considered

Staff concluded that there would be no significant impacts from the project with the incorporation of mitigation. Nevertheless, staff considered several alternatives to the project for a more comprehensive analysis. The following discussion provides staff's analysis of these alternatives.

5.6.1 Alternatives Considered and Not Evaluated Further

This subsection discusses alternatives initially considered but ultimately not evaluated further due to infeasibility, failure to reduce any impacts, and/or failure to meet the project objectives. As a result, these alternatives were not evaluated from an environmental impact perspective or compared with the proposed CA3GBF project. The alternatives considered but not evaluated further include an alternative project site and biodiesel fuel, fuel cell, and battery energy storage alternatives.

5.6.1.1 Alternative Project Site

Although the impacts of the proposed project would be less than significant with mitigation, staff evaluated whether an alternative site location should be identified as a potentially feasible alternative to avoid or reduce potentially significant impacts. However, the 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 Santa Clara region (e.g., cultural and tribal resources, geology and soils [including paleontology]). Also, the applicant has already acquired the project site, zoned for the proposed use and located in close proximity to existing operational data centers, and acquiring an alternative site might be costly and infeasible if a suitable site (with needed infrastructure and consistent zoning) is not available for sale or lease within a reasonable timeframe, resulting in the project not meeting its project objectives. Finally, no alternative locations where environmental impacts would likely be avoided or substantially reduced compared to the project have been identified by the city of Santa Clara, public agencies, or members of the public.

For these reasons, further consideration of an alternative project site is not necessary. Staff concludes that further exploration of properties beyond the project site is unlikely to yield a different location for the project that could feasibly be developed as an alternative to the project that would reduce or avoid potentially significant impacts.

5.6.1.2 Biodiesel Fuel Alternative

Biodiesel is a domestically produced renewable fuel. Like renewable diesel, biodiesel can be manufactured from a variety of biomasses, such as vegetable oils, animal fats, and grease. However, biodiesel is not the same as renewable diesel. Biodiesel has different fuel properties than renewable diesel and must meet the definition of American Society for Testing and Materials (ASTM) D6751. Also, it is produced through transesterification, which is a chemical process that converts fats and oils into fatty acid methyl esters (U.S. EIA 2021). Biodiesel is generally blended with conventional diesel at a 5 percent to 20 percent ratio (Green Fleet 2021). Its physical properties are similar to those of conventional diesel, proposed for use by the applicant, but it is a cleaner burning fuel than conventional diesel. Biodiesel is compatible as an alternative fuel for diesel-fired emergency backup generators (gensets).

Potential Feasibility Issues

Biodiesel fuel currently suffers from technical problems, making it an unsuitable substitution for 100 percent petroleum-based, ultra-low sulfur diesel. Biodiesel fuel can be problematic for the genset's fuel system. It is harmful to rubber material, such as the hoses that transfer fuel, and the associated O-rings and seals that prevent fuel leaks. Additionally, this fuel suffers from stability issues when stored for long periods of time. Compared to conventional diesel, biodiesel is more hygroscopic (i.e., it attracts water) (Farm Energy 2021). Water can accumulate during transportation and storage. Moisture, if allowed to accumulate for a long time, will alter the fuel's chemical structure. Moreover, in cold weather conditions, the fuel thickens sooner than conventional diesel. Both conditions affect the function of the fuel filter, pump, and injectors in the fuel system of an engine. These issues would also increase the maintenance cycles and cost and can be a cause to void engine warranties. Additionally, biodiesel is expensive.

To date, the operating hours for biodiesel fuel use in data centers are minimal.

Finally, the production of biodiesel from plant material could have environmental impacts of its own; it is a water-intensive operation, as 2,500 liters of water would be needed to produce 1.0 liter of biodiesel fuel (UNESCO 2021).

Due to technical feasibility issues and potential additional environmental impacts, biodiesel fuel as an alternative was eliminated from further analysis.

5.6.1.3 Fuel Cell Alternatives

Fuel cells convert chemical energy into electrical energy. There are several types of fuel cells, which vary according to the types of electrochemical reactions that take place in

the cells, the types of catalysts required, the operating temperature range, the fuel requirements, and other factors affecting the applications suitable for the fuel cells.

The most promising types of fuel cells for powering data centers are solid oxide fuel cells (SOFCs) and polymer electrolyte membrane or proton exchange membrane (PEM) fuel cells (Microsoft 2021).

Solid Oxide Fuel Cells Alternative

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.

Potential Feasibility Issues

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 megawatts (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 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.

Because it takes time to reach critical operating temperatures, SOFCs have slow startup times requiring up to 60 minutes (GenCell 2021). 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.

The 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. Outfitting SOFCs with durable materials is 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 could interconnect with two independent gas distribution lines.

A crucial hurdle facing potential big users of SOFCs, such as data centers, is the lack of a sufficient supply of components. 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 Cells Alternative

A suitable fuel cell technology for backup energy generation is PEM 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, such 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 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. PEM fuel cells operate at low temperatures and require fuels that are carbon-free and rich in hydrogen content, preferably pure hydrogen, for maximum voltage output and quick start-up times that a data center generator requires in a backup capacity. Hydrogen can either be piped in or made on-site from a methane source, such as natural gas, or from water through electrolysis. These options are discussed in more detail below. Unlike SOFCs, CO poisoning is an important issue for PEM fuel cells because they cannot tolerate great amounts of CO (Fuel Cell 2021).

Potential Feasibility Issues

On-site fuel storage, the current pipeline infrastructure, and on-site generation of hydrogen would challenge the project's ability to provide fuel to the fuel cell.

On-site Fuel 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. The proposed project would need fuel for up to 24 hours of fuel cell operation (the same as the backup duration for diesel). Therefore, the project site

would need approximately 3,000 cubic feet of compressed hydrogen[1], at 3600 psig, stored on-site per 1.0-MW fuel cell. Furthermore, the site would need approximately 300,000 cubic feet, or over 7 acre-feet of compressed hydrogen, for 100 MW of fuel cells (not including redundant 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.

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 80,000 cubic feet, or 2 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 degrees Fahrenheit. LHG would need to be stored and distributed in specialized equipment, including insulated storage tanks to keep the fuel in liquid state at atmospheric pressure, at a temperature of 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 leakage. For LHG to remain at a constant temperature and pressure, it must allow for natural evaporation known as boil-off gas (BOG). BOG is 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, and 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 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 the standards specified by the National Fire Protection Association along with the Santa Clara City Code (City 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 Code.

Pipeline Infrastructure. For large applications, such as the proposed project, hydrogen would need to be supplied through multiple pipelines to mitigate on-site storage challenges and increase reliability. However, according to the 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

1 Compressed hydrogen conversion: 800 cubic meter per hour x 24 hours x 1/240 compression ratio x 35.32 cubic feet per cubic meter = 2,826 cubic feet

to fabricate the pipelines; the need to control hydrogen permeating and leaks; and the need for lower cost, more reliable, and more durable hydrogen compression technology.

On-site Generation (Reforming and Electrolysis). Alternatively, hydrogen for PEM fuel cells can be supplied using other methods, such as reforming and electrolysis.

Reforming

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 that could be used for SMR. Although SMR is typically used in SOFCs because of the resiliency of the SOFCs' interior components to high levels of CO, it is not suitable for PEM fuel cells. The CO can poison the PEM fuel cells' platinum on the electrode, which leads to lower voltage at a given electrical current density (Fuel Cell 2021). SMR could produce the desired hydrogen content for PEM fuel cells should further processing to remove undesired levels of CO be performed, or by using a larger PEM fuel 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 fuel cells because of its high efficiency and energy density (Fuel Cell 2021). Methanol is a liquid, like conventional diesel, and can be stored on-site. Methanol is reformed with water to produce hydrogen and carbon oxides.

Both SMR and methanol reforming consume energy during hydrogen production and produce carbon dioxide (CO_2) that may be released into the atmosphere. Also, additional equipment for both types of reforming would increase project costs.

Electrolysis

Electrolysis can also be used to produce the hydrogen needed for PEM fuel cells. It is a promising option for carbon-free hydrogen production, using electricity to cause the chemical reaction of splitting 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 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

2 An ISO container is a container which has been built in accordance with the International Organization for Standardization regulations.

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 the data center without power. Therefore, hydrogen may need to be produced and stored on-site for future use during emergency generation. Again, fuel storage equipment must comply with standards specified by the National Fire Protection Association along with the City 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 Code. Additional equipment required for hydrogen electrolyzers would increase project costs.

In conclusion, 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.

SOFC and PEM Fuel Cells Feasibility Conclusion. In summary, fuel cells for large-scale backup generation are not fully proven; thus, their reliability is undetermined. Data center customers demand the most reliable data storage service available, as reflected in the applicant's project objectives, which include the development of a highly reliable data center. Furthermore, data center insurers are not willing to provide insurance coverage unless data centers use proven technologies with an extremely low probability of operational failure. Securing fuel for the cells and storing it is a challenge requiring specialized expertise and increased costs for installing and maintaining systems that are expected to be used only infrequently. Because of the limitations described above, fuel cell technology is not currently a viable alternative to the proposed project's use of diesel-powered backup generators.

5.6.1.4 Battery Energy Storage Alternatives

Standalone Battery Energy Storage Alternative

Batteries store chemical energy and convert it to electrical energy. They are used to supply power for many applications. Batteries come in many different shapes and sizes, and different battery types can have different chemical properties. Lithium-ion batteries in huge battery banks provide standby or emergency power and almost instantaneous startup times and are therefore considered suitable for data centers.

Data centers currently use UPS systems consisting of batteries to ensure a smooth transition from the grid to the gensets while the gensets synchronize to the data centers'

electrical busbars[3]. The UPS system proposed for the project is designed to provide up to five minutes of backup power at 100 percent load. UPS systems are proven and reliable to support genset start up, but they are currently limited in power supply duration.

A Battery Energy Storage System (BESS) would provide higher capacity and support longer outages for data center projects. A BESS can be designed to provide up to approximately 100 MWs of backup power and provides the quick start times that a data center requires.

A standalone BESS for a data center's load demands would require ample on-site storage space for long outage durations. To date, a 300-MW/1200 megawatt-hours (MWh) (supplying 300 MW continuously for 4 hours) BESS is the largest one successfully deployed (Power Magazine 2021). Until recently, the operational duration of battery systems has been in the range of four to six hours, not necessarily because battery systems do not have the potential to operate longer, but because a longer duration has not been demonstrated in large-scale data center applications requiring long-duration backup power. Staff is aware of a recent proposal, the Gilroy Backup Generating Facility (GBGF 2021), for two BESS facilities, each with a capacity of 50 MW and discharge capacity of 640 MWh for a total capacity of approximately 100 MW and a discharge duration of approximately 13 hours. The design of this proposal includes diesel-fired gensets 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

The employment of a standalone BESS for the project would be the first application of this technology for a project of this magnitude for long durations. The project proposes storing fuel on-site for approximately 24 hours of backup generation. A 6-MWh battery storage container requires approximately 380 square feet of space. To supply approximately 100 MW of uninterruptable power in case of 24 hours of grid outage, the project would need a 2,400-MWh battery system, assuming a 100-percent charging and discharging scenario. This translates to approximately 3.5 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 they could be readily accessible for maintenance and potential fire response, while mitigating seismic concerns. Alternatively, the batteries could be stored in buildings to reduce their footprint, but they would then be subject to stricter building code fire protection requirements. Reducing the footprint would increase the project cost.

3 In electric power distribution, a busbar is a metallic strip or bar used to connect high voltage equipment at electrical switchyards, and low voltage equipment in battery banks.

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. If the project were expected to continue beyond 20 years, which is conceivable, additional replacements may be necessary.

Tandem Battery Storage Alternative

Staff considered a battery energy storage system in tandem (tandem BESS) with the proposed project's diesel-fired gensets. A tandem solution proposal would not be the first of its kind for a data center application, as previously mentioned. Such an option would allow the batteries to act as primary backup power for short outage durations, while the project's 44 diesel-fired gensets would provide backup power when outages are longer in duration and the batteries have been discharged.

For this project, the hypothetical tandem solution would include an approximately 100-MW-capacity BESS with a discharge capacity of 1370 MWh (approximately 100 MW with a discharge duration of approximately 13 hours) along with the 44 gensets. The battery system would supply backup power for a duration of approximately 13 hours and the 44 gensets would serve to back up the battery system once the batteries have been discharged until the electrical grid is restored. However, having a tandem solution would not reduce the number of gensets required for the project; again, the gensets would need to be sufficient to support data center load demands for longer outages if necessary. The battery system would require approximately 6,300 square feet of storage space.