DOCKETED	
Docket Number:	22-SPPE-02
Project Title:	San Jose Data Center 04
TN #:	245949
Document Title:	San Jose Data Center 04 - SPPE Application - App A, Part II
Description:	N/A
Filer:	Scott Galati
Organization:	DayZenLLC
Submitter Role:	Applicant Representative
Submission Date:	9/9/2022 2:44:48 PM
Docketed Date:	9/9/2022

4.19 UTILITIES AND SERVICE SYSTEMS

4.19.1 Environmental Setting

4.19.1.1 *Regulatory Framework*

State

State Water Code

Pursuant to the State Water Code, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan (UWMP) and update it every five years. As part of a UWMP, water agencies are required to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, water conservation, water service reliability, water recycling, opportunities for water transfers, and contingency plans for drought events. The City of San José adopted its most recent UWMP in June 2021.[87]

Assembly Bill 939

The California Integrated Waste Management Act of 1989, or AB 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures.

Assembly Bill 341

AB 341 sets forth the requirements of the statewide mandatory commercial recycling program. Businesses that generate four or more cubic yards of garbage per week and multi-family dwellings with five or more units in California are required to recycle. AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

Senate Bill 610

SB 610 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires preparation of a WSA containing detailed information regarding water availability to be provided to the decision-makers prior to approval of specified large development projects that also require a General Plan Amendment. This WSA must be included in the administrative record that serves as the evidentiary basis for an approval action by the city or county on such projects. Under SB 610, WSAs must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA. Pursuant to the California Water Code (Section 10912[a]), projects that require a WSA include any of the following:

[87] City of San José. *City of San José 2020 Urban Water Management Plan*. June 2021. https://www.sanjoseca.gov/home/showpublisheddocument/422/637602045327100000

- 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 identified in this list; or
- 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.

Senate Bill 1383

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The bill grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that at least 20 percent of currently disposed edible food is recovered for human consumption by 2025. CalRecycle released an analysis titled "Analysis of the Progress Toward the SB 1383 Organic Wase Reduction Goals" in August of 2020, which recommended maintaining the disposal reduction targets set forth in SB 1383.[88]

California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code, establishing mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and indoor environmental quality. These standards include the following mandatory set of measures, as well as more rigorous voluntary guidelines, for new construction projects to achieve specific green building performance levels:

- Reducing indoor water use by 20 percent;
- Reducing wastewater by 20 percent;
- Recycling and/or salvaging 50 percent of nonhazardous construction and demolition debris; and
- Providing readily accessible areas for recycling by occupants.

[88] CalRecycle. Analysis of the Progress Toward the SB 1383 Organic Wase Reduction Goals. August 18, 2020. https://www2.calrecycle.ca.gov/Publications/Details/1693#:~:text=Analysis%20of%20the%20Progress%20Toward,(DRRR%2D2020%2D1693)&text=SB%201383%20establishes%20targets%20to,75%20percent%20reduction%20by%202025.

Local

Envision San José 2040 General Plan

The Envision San José 2040 General contains the following policies which are specific to utilities and service systems are relevant to this analysis:

Envision San José 2040 Relevant Utilities and Service Systems Policies

Policy	Description
IN-3.3	Meet the water supply, sanitary sewer and storm drainage level of service objectives through an orderly process of ensuring that, before development occurs, there is adequate capacity. Coordinate with water and sewer providers to prioritize service needs for approved affordable housing projects.
IN-3.5	Require development which will have the potential to reduce downstream LOS to lower than "D", or development which would be served by downstream lines already operating at a LOS lower than "D", to provide mitigation measures to improve the LOS to "D" or better, either acting independently or jointly with other developments in the same area or in coordination with the City's Sanitary Sewer Capital Improvement Program.
IN-3.7	Design new projects to minimize potential damage due to stormwaters and flooding to the site and other properties.
IN-3.9	Require developers to prepare drainage plans that define needed drainage improvements for proposed developments per City standards.
MS-3.1	Require water-efficient landscaping, which conforms to the State's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial, and developer-installed residential development unless for recreation needs or other area functions.
MS-3.2	Promote use of green building technology or techniques that can help to reduce the depletion of the City's potable water supply as building codes permit.
MS-3.3	Promote the use of drought tolerant plants and landscaping materials for nonresidential and residential uses.
IN-3.10	Incorporate appropriate stormwater treatment measures in development projects to achieve stormwater quality and quantity standards and objectives in compliance with the City's National Pollutant Discharge Elimination System (NPDES) permit.
EC-5.16	Implement the Post-Construction Urban Runoff Management requirements of the City's Municipal NPDES Permit to reduce urban runoff from Project Sites.

In addition to the above-listed San José General Plan policies, new development in San José is also required to comply with programs that mandate the use of water-conserving features and appliances and the Santa Clara County Integrated Watershed Management (IWM) Program, which minimizes solid waste.

San José Zero Waste Strategic Plan/Climate Smart San José

The Climate Smart San José provides a comprehensive approach to achieving sustainability through new technology and innovation. The Zero Waste Strategic Plan outlines policies to help the City of San José foster a healthier community and achieve its Climate Smart San José goals, including 75 percent waste diversion by 2013 and zero waste by 2022. The Climate Smart San José also includes ambitious goals for economic growth, environmental sustainability, and enhanced quality of life for San José residents and businesses.

San José Sewer System Management Plan

The purpose of the Sewer System Management Plan (SSMP) is to provide guidance to the City in the operation, maintenance, and rehabilitation of the sewer assets of the City of San José. The SSMP includes construction standards and specifications for the installation and repair of the collection system and its associated infrastructure.

Private Sector Green Building Policy

The City of San José's Green Building Policy for new private sector construction encourages building owners, architects, developers, and contractors to incorporate meaningful sustainable building goals early in the design process. This policy establishes baseline green building standards for private sector construction and provides a framework for the implementation of these standards. It is also intended to enhance the public health, safety, and welfare of San José residents, workers, and visitors by fostering practices in the design, construction, and maintenance of buildings that will minimize the use and waste of energy, water, and other resources.

4.19.1.2 *Existing Conditions*

Water Service

The Project Site is vacant and does not currently generate water demand. Water service to the Project Site would be provided by the San José Municipal Water Service (SJMWS). Water sources for the SJMWS are the Hetch-Hetchy Aqueduct and four groundwater wells. Within the North San José area, the SJMWS network consists of a 180-inch pipeline located along North First Street, with an extension to the east along Trimble Road. One water main currently crosses from North San José to the Alviso area. The remainder of the distribution system consists of pipes ranging from four to 12 inches in diameter. Existing water facilities in the Project vicinity include a 12-inch water line in Orchard Parkway.

Sanitary Sewer/Wastewater Treatment

Wastewater from the project site would be treated at the San José/Santa Clara Regional Wastewater Facility (RWF), which is administered and operated by the City Department of Environmental Services. The RWF has the capacity to treat 167 million gallons of wastewater per day (mgd) during dry weather flow, with the City allocated 108.6 mgd of existing capacity. The City of San José generates approximately 69.8 mgd of dry weather average flow, leaving 38.8 of excess treatment capacity at the RWF for the City's wastewater treatment demands.[89]

[89] City of San José. *Envision San José 2040 General Plan FEIR.* September 2011. Page 648.

Existing sanitary sewer facilities in the Project vicinity include a 15-inch sewer line in Orchard Parkway and a 20-inch sewer line parallel to the Guadalupe River Trail.

Storm Drainage System

The Project Site is located within an urbanized area served by an existing storm drainage system. Existing storm drain facilities in the project area include 60- and 96-inch storm drain lines in Orchard Parkway. The Project Site is covered in pervious surface area. Runoff from the Project Site either infiltrates into the ground or flows untreated into storm drain inlets and manholes in the site vicinity, where it is then conveyed to the City's storm drain system, to the Guadalupe River and eventually to the San Francisco Bay.

Solid Waste

The City of San José currently generates approximately 1.7 million tons of solid waste annually.[90] The City is served by five landfills, nine recycling and transfer stations, five composting facilities, and eight processing facilities for construction and demolition debris.[91] The landfills include Guadalupe Mines, Kirby Canyon, Newby Island, and Zanker Road facilities. According to Santa Clara County's Integrated Waste Management Plan (IWMP), the County has adequate disposal capacity beyond 2030.[92]

The Project Site does not currently generate solid waste. Commercial solid waste collection in San José is provided by several non-exclusive service providers. Recycling services are also available to most businesses from private recyclers.

Electricity, Natural Gas, and Telecommunications

Electricity in San José is sourced from SJCE and transported to businesses and residences via PG&E's existing utility infrastructure. PG&E distributes electric power primarily through underground systems extending from various high voltage transmission lines in the area. An existing electric substation is located on the west side of North First Street, on Component Drive. PG&E also sources and delivers natural gas to the North San José area through a series of gas distribution lines located within street rights-of-way. Telephone service infrastructure in the North San José area is provided by SBC Communications, Inc.

4.19.2 Impact Discussion

For the purpose of determining the significance of the Project's impact on utilities and service systems, would the Project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications

[90] City of San José. *2040 General Plan FEIR.* September 2011.
[91] City of San José. *Assessment of Infrastructure for the Integrated Waste Management Zero Waste Strategic Plan Development*. 2008.
[92] Santa Clara County. *Five-Year CIWMP/RAIWMP Review Report.* June 2016.

facilities, the construction or relocation of which could cause significant environmental effects?

b) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e) Be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?

4.19.2.1 *Project Impacts*

a) Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water Facilities

Potable Water

Potable water use for the Project would be limited to domestic uses such as toilets, sinks and drinking fountains. The potable water demands of the Project would be met by SJMWS, as is discussed under checklist question b) below. The Project would install new domestic and fire water lines on-site that would connect with the existing City infrastructure systems located along Orchard Parkway. The Project would not require the construction or expansion of potable water delivery systems or the expansion of the boundaries of the SJMWS service area. Therefore, the Project would not result in significant environmental effects related to the relocation or construction of new or expanded potable water facilities.

Recycled Water

Recycled water for the Project would be used for landscaping and building cooling purposes. There is no existing recycled water service to the Project Site. A new underground recycled water pipeline would be connected to the existing recycled water main at the intersection of Montague Expressway and Kruse Drive in the City of San José. From there, the proposed main extension would continue South on Montague Expressway, turn Southwest onto Trimble Road, and then turn South onto Orchard Parkway towards the Project Site. This route would require approximately 1.5 miles of new recycled water main. Construction of the recycled water line would involve trenching in existing roadways and would not disturb undeveloped areas. As a result, impacts are limited to those associated with construction activities. This SPPE application includes an analysis of the Project's construction impacts in relevant impact sections and has determined that all construction impacts would be reduced to a less than significant level. As a result, no significant impacts would occur as a result of construction of the recycled water line.

Wastewater Treatment Facilities

The proposed Project would connect to the City's existing sanitary sewer system. An existing sanitary sewer line in Orchard Parkway would be used to service the proposed Project. In order to connect to the existing sanitary sewer system, the Project would install sanitary sewer laterals during grading of the Project Site and Off-Site Infrastructure Areas, which would result in minimal impacts.

The Project is required to comply with all applicable Public Works requirements to confirm sanitary sewer lines would have capacity for sewer services required by the proposed Project. A technical memorandum detailing the expected sewer discharge of the Project was submitted to the Public Works Department in June 2022. Upon review of the data, the Public Works department determined that the existing sewer line in Orchard Parkway has adequate capacity to serve the Project.[93], See Appendix K for the City correspondence.

Refer to checklist question "c" for a discussion of the availability of treatment capacity at the RWF for the Project.

Stormwater Drainage Facilities

As discussed in Section 4.10 Hydrology and Water Quality, the Project would result in an increase of impervious surface and runoff at the Project Site. The Project would be required to comply with the MRP and City of San José Policy 6-29, which would remove pollutants and reduce the rate and volume of runoff from the Project Site to levels that are at or below existing conditions. Numerous biotreatment areas would be located on-site to ensure runoff generated on-site is managed using LID methods. The proposed Project would construct new storm drain lines and manholes throughout the Project Site which would capture and convey runoff to the proposed biotreatment areas prior to release into existing storm drain mains in Orchard Parkway. The proposed storm drainage improvements would occur during grading and would result in minimal impacts.

During the development review process, the existing storm drainage system would be evaluated for its capacity to accommodate the proposed Project, in accordance with General Plan Policy IN-3.3. Major infrastructural improvements, if necessary, would be subject to additional environmental review. Therefore, the proposed Project would not result in significant environmental impacts due to the construction or relocation of storm drainage facilities.

Electric Power, Natural Gas, and Telecommunication Facilities

The Project would construct a new on-site substation to connect to PG&E's 115kV electrical distribution system. PG&E metering equipment would be constructed in the substation with manual disconnect on the line and load sides of the equipment. In addition, a PG&E meter and relay building would be constructed near the metering equipment. Interconnection of the on-site substation to the PG&E distribution system would be through a new PG&E owned and operated switching station. The new switching station would be located immediately adjacent to the onsite substation and will be designed and constructed to PG&E standards. The proposed switching station would interconnect the new PG&E distribution to the existing PG&E Trimble Substation and the existing PG&E Newark

[93] Cristina Lindstrom, Associate Engineer. City of San José Department of Public Works. Email Communication. July 12, 2022.

Substation. The environmental impacts of electric infrastructure improvements are included the analysis in this SPPE Application. No significant impacts would occur as a result of construction of these improvements.

Based on the analysis above, the proposed Project would not result in significant impacts from construction or relocation of new or expanded electric power, natural gas, or telecommunications utilities. **(Less than Significant Impact)**

b) Would the Project have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The Project would have potable water demand of roughly 1.35 acre-feet per year (AFY) and a recycled water demand of roughly 690.2 AFY (680 AFY for cooling and 10.2 AFY for landscaping irrigation). A Water Supply Assessment (WSA) pursuant to SB 610 requirements was completed for the Project in August 2022 (refer to Appendix J). The WSA determined that sufficient potable and recycled water supplies are available to serve the Project.

As a result, implementation of the proposed Project would not create the need for major new utility or water supply infrastructure and would have a less than significant impact on the City's water supply. **(Less than Significant Impact)**

c) Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

The RWF is responsible for treating wastewater generated within the City of San José. The RWF has the capacity to treat 167 million gallons of wastewater per day.[94] Currently, the RWF is operating under a 120 million gallon per day dry weather effluent flow constraints. The proposed Project would generate approximately 160,822 gpd. The Project, by itself, would not exceed the treatment capacity of the RWF. The proposed Project is consistent with the development assumptions and planned growth in the General Plan; therefore, implementation of the Project would not result in significant impacts to capacity of wastewater treatment facilities. With implementation of the Project, the RWF would still operate below the required 120 million gallons per day constraint and would not increase the need for wastewater treatment beyond the capacity of the RWF. **(Less than Significant Impact)**

d) Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Santa Clara County's IWMP was approved by the California Integrated Waste Management Board in 1996 and reviewed in 2004, 2007, 2011, and 2016. Each jurisdiction in the County has a landfill diversion requirement of 50 percent per year. According to the IWMP, the County has adequate

[94] City of San José. "San José-Santa Clara Regional Wastewater Facility". Accessed December 18, 2019: http://sanJoséca.gov/index.aspx?nid=1663.

disposal capacity beyond 2030.[95] The Project would be required to conform to City plans and policies and other applicable laws and regulations to reduce solid waste generation and would be served by a landfill with adequate capacity. **(Less Than Significant Impact)**

e) Would the Project be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?

Consistent with CALGreen requirements, the proposed Project would be required to provide on-site recycling facilities, develop a construction waste management plan salvage at least 65 percent of nonhazardous construction/demolition debris (by weight), and implement other waste reduction measures. Additionally, the estimated increases in solid waste generation from future development would be avoided through implementation of the City's Zero Waste Strategic Plan. The Zero Waste Strategic Plan, in combination with existing regulations and programs, would ensure that the proposed project would not result in significant impacts on solid waste disposal capacity in excess of state or local standards or in excess of NISL remaining capacity of 16.9 million cubic yards. **(Less Than Significant Impact)**

4.19.2.2 *Cumulative Impacts*

Would the Project result in a cumulatively considerable contribution to a significant cumulative utilities and service systems impact?

The geographic study area for cumulative impacts to utilities and service systems is citywide or within the applicable utility's service area, as noted below. Except for extensions to existing utility infrastructure located adjacent to the Project Site within existing public rights of way, the Project would not require the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, natural gas, or telecommunications facilities. The Envision San José 2040 General Plan Integrated Final Program EIR found that buildout of the General Plan would not result in impacts related to water supply, wastewater treatment and storm drainage facilities, or solid waste infrastructure. Any proposed new or expanded facilities necessitated by future cumulative development would be subject to environmental review and is not anticipated to result in significant environmental effects. Therefore, the Project would not result in cumulatively significant effects on the environment related to the relocation or construction of new or expanded facilities.

The geographic area for cumulative water supply is the service area of the SJMWS. As described above, a WSA was completed for the Project that determined there is sufficient capacity to serve the project and future development within the SJMWS service area and the Project. For these reasons, there is no significant cumulative water supply impact.

The geographic area for cumulative wastewater treatment is the service area of the RWF. As discussed under checklist question c), there is sufficient treatment capacity at the RWF for the buildout of the General Plan and the Project. As such, the Project would not result in a cumulatively significant impact on wastewater treatment facilities.

[95] Santa Clara County. *Five-Year CIWMP/RAIWMP Review Report.* June 2016.

The geographic area for cumulative landfill capacity is the County. As discussed under checklist question d), the Envision San José 2040 General Plan Integrated Final Program EIR determined that the increase in waste generated by build out of the General Plan (which includes the project and future cumulative projects) would not result in an exceedance of capacity at existing landfills or otherwise impair the attainment of solid waste reduction goals. Cumulative projects in the City would be required to conform to City plans and policies to reduce solid waste generation and increase waste diversion, such as the Zero Waste Strategic Plan and General Plan Policies IN-1.5, IN-5.1, IN-5.3, IN-5.4, and IP-3.8. As such, the project would not result in a cumulatively significant solid waste impact.

All cumulative projects are required to adhere to the requirements of the Zero Waste Strategic Plan and General Plan policies, thereby complying with applicable statutes and regulations related to solid waste, including CALGreen, AB 939, AB 341, and local waste diversion requirements. Therefore, the Project would not result in a cumulatively significant impact due to noncompliance with federal, state, or local management and reduction statues and regulations related to solid waste. **(Less than Significant Cumulative Impact)**

4.20 WILDFIRE

4.20.1 Environmental Setting

4.20.1.1 *Regulatory Framework*

State

Fire Hazard Severity Zones

CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. Referred to as Fire Hazard Severity Zones (FHSZs), these maps influence how people construct buildings and protect property to reduce risk associated with wildland fires. FHSZs are divided into areas where the state has financial responsibility for wildland fire protection, known as state responsibility areas (SRAs), and areas where local governments have financial responsibility for wildland fire protection, known as local responsibility areas (LRAs). Homeowners living in an SRA are responsible for ensuring that their property is in compliance with California's building and fire codes. Only lands zoned for very high fire hazard are identified within LRAs.

California Public Resources Code Section 4442 through 4431

The California Public Resources Code includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that uses an internal combustion engine; specify requirements for the safe use of gasoline-powered tools on forest-covered land, brush-covered land, or grass-covered land; and specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas. These regulations include the following:

- Earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (Public Resources Code Section 4442);
- Appropriate fire suppression equipment would be maintained during the highest fire danger period, from April 1 to December 1 (Public Resources Code Section4428);
- On days when a burning permit is required, flammable materials would be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor would maintain appropriate fire suppression equipment (Public Resources Code Section 4427); and
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines would not be used within 25 feet of any flammable materials (Public Resources Code Section 4431).

Fire Management Plans

CAL FIRE has developed an individual Unit Fire Management Plan for each of its 21 units and six contract counties. CAL FIRE has developed a strategic fire management plan for the San José Unit, which covers the project area and addresses citizen and firefighter safety, watersheds and water, timber, wildlife and habitat (including rare and endangered species), unique areas (scenic, cultural,

and historic), recreation, range, structures, and air quality. The plan includes stakeholder contributions and priorities and identifies strategic areas for pre-fire planning and fuel treatment as defined by the people who live and work with the local fire issues.

4.20.1.2 *Existing Conditions*

The Project Site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones.[96]

4.20.2 Impact Discussion

For the purpose of determining the significance of the Project's impact on wildfire, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

4.20.2.1 *Project Impacts*

The Project Site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, the Project would not result in wildfire impacts. **(No Impact)**

4.20.2.2 *Cumulative Impacts*

The Project Site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, the project would not result in cumulative wildfire impacts. **(No Cumulative Impact)**

[96] State of California Department of Forestry and Fire Protection. Santa Clara County Fire Hazard Severity Zones in SRA. Adopted November 7, 2007.

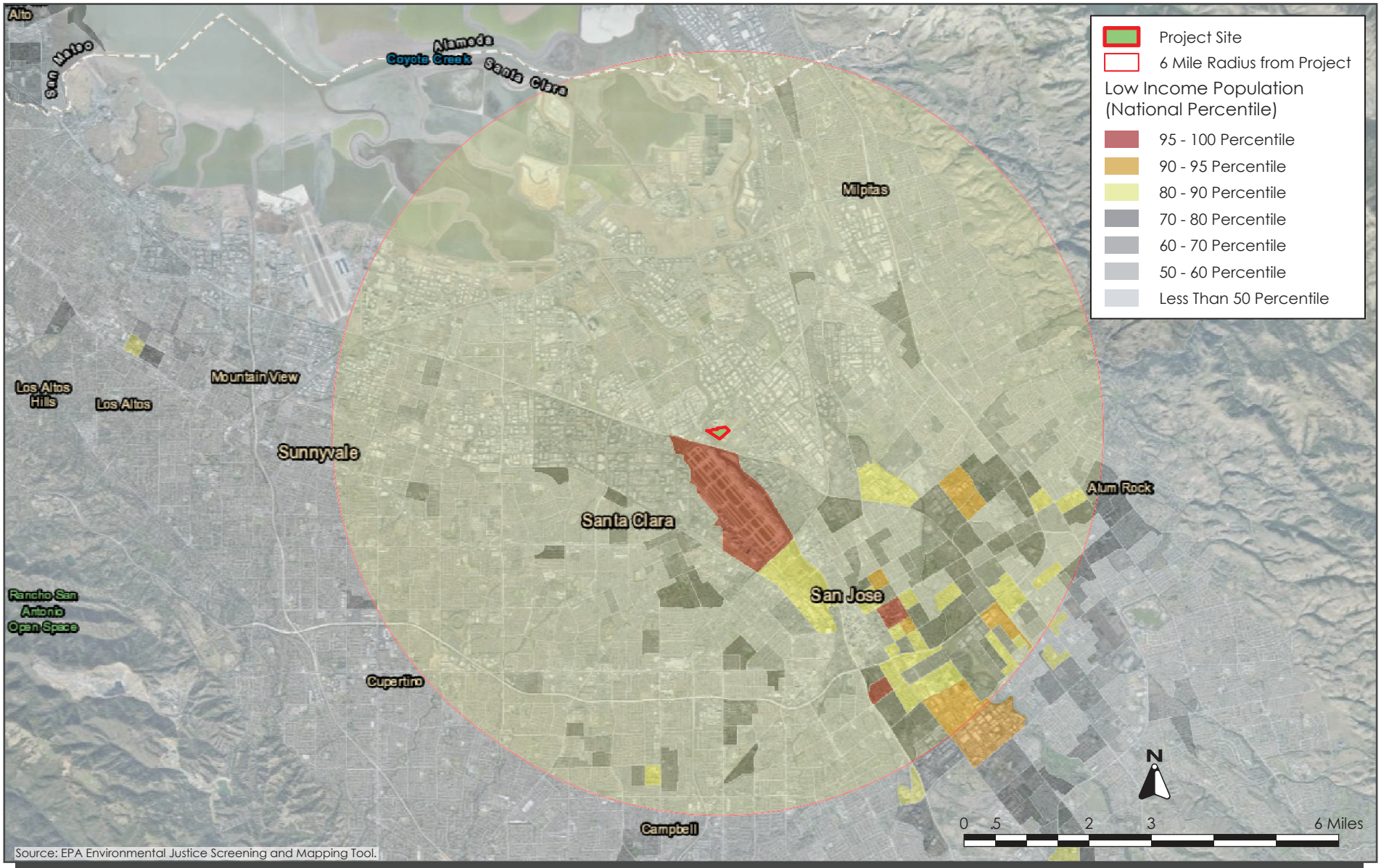
4.21 ENVRONMENTAL JUSTICE

Based on California Department of Education data shown in Table 4.21-1 below, students attending schools within six miles of the Project Site fall into the school districts of Alum Rock Union Elementary, Berryessa Union Elementary, Campbell Union, Campbell Union High, Cupertino Union, East Side Union High, Franklin-McKinley Elementary, Fremont Union High, Luther Burbank, Milpitas Unified, Moreland, Orchard Elementary, San Jose Unified, Santa Clara Unified, and Sunnyvale.[97] The percentage of those living in the school districts of Alum Rock Union Elementary, Campbell Union, Campbell Union High, East Side Union High, Franklin-McKinley Elementary, San Jose Unified, and Luther Burbank (in a six-mile radius of the Project Site) and enrolled in the free or reduced price meal program is larger than those in the reference geography, and thus are considered an environmental justice (EJ) population based on a low income population as defined in Guidance on Considering Environmental Justice During the Development of Regulatory Actions. **Error! Reference source not found.** shows low-income population distribution by census blocks within six miles of the project.

[97] California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2021-2022, http://dq.cde.ca.gov/dataquest/

Figure 4.21-2 shows 2014 – 2018 American Community Survey data of blocks within a six-mile radius of the project with a minority population greater than or equal to 50 percent. The population in these blocks represents an environmental justice (EJ) population based on race and ethnicity as defined in the United States Environmental Protection Agency's Guidance on Considering Environmental Justice During the Development of Regulatory Actions (US EPA 2015).

Table 4.21-1: Low Income Data within the Project Area			
School Districts in Six Mile Radius	**Enrollment Used for Meals**	**Free or Reduced Price Meals**	
Alum Rock Union Elementary	9,226	7,053	76%
Berryessa Union Elementary	6,258	1,751	28%
Campbell Union	6,230	2,445	39%
Campbell Union High	8,583	3,199	37%
Cupertino Union	14,084	1,808	13%
East Side Union High	25,174	10,550	42%
Franklin-McKinley Elementary	8,402	5,560	66%
Fremont Union High	10,296	1,134	11%
Luther Burbank	437	364	83%
Milpitas Unified	10,072	2,883	29%
Moreland	4,043	1,244	31%
San Jose Unified	26,901	10,087	37%
Santa Clara Unified	14,028	3,645	26%
Sunnyvale	5,480	1,325	24%
Reference Geography			
Santa Clara County	241,326	79,000	33%
Source: California Department of Education, Data & Statistics, Free or Reduced Price Meals Data 2021-2022, https://www.cde.ca.gov/ds/sd/sd/filessp.asp.			



LOW INCOME POPULATION DISTRIBUTION BY CENSUS BLOCKS WITHIN SIX MILES OF PROJECT SITE | FIGURE 4.21-1

PEOPLE OF COLOR DISTRIBUTION WITHIN SIX MILES OF PROJECT SITE | FIGURE 4.21-2

4.21.1 Environmental Impacts

The following technical areas discuss impacts to EJ populations: 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 Traffic, and Utilities and Service Systems.

Aesthetics

Environmental justice (EJ) populations may experience disproportionate visual impacts if the siting of visually intrusive or degrading projects, particularly industrial facilities, occurs within or near EJ communities to a greater extent than within the community at large.

As depicted in

Figure 4.21-2, the Project Site is located in an area with a high minority population with the adjacent blocks including percentiles ranging from the 60th to 100th for minority groups. However, as discussed in Section **Error! Reference source not found.Error! Reference source not found.**, the proposed project is located within an urbanized area of San José which already experiences light and/or glare from the surrounding development. The project would be reviewed for consistency with the City's Design Guidelines, and other applicable codes, policies, and regulations to ensure that the project would not adversely affect the visual quality of the project area, and to confirm would conform to existing architectural and landscaping standards. The proposed project would be required to comply with the City's Outdoor Lighting on Private Development Policy (Policy 4-3). Implementation of the proposed project would not substantially degrade the existing visual quality or character of the site or its surrounding area. Therefore, the proposed project would not have the potential to affect high minority populations. **(Less than Significant Impact)**

Air Quality

The Air Quality section identified the potential public health impacts (i.e., cancer and non-cancer health effects) which could affect the EJ population represented in **Error! Reference source not found.** and

Figure 4.21-2. These potential public health risks were evaluated quantitatively based on the most sensitive population, which includes the EJ population, by conducting a health risk assessment. The results were presented by level of risks. The potential construction and operation risks are associated with exposure to diesel particulate matter (DPM), total organic gases (TOG) in diesel exhaust, and evaporative and exhaust TOGs from gasoline vehicles. The toxic air contaminants (TACs) from TOG include 1,3-Butadiene, Acetaldehyde, Benzene, Ethylbenzene, Formaldehyde, n-Hexane, Methanol, Methyl Ethyl Ketone, Napthalene, Propylene, Styrene, Toluene, and Xylene. The analysis determined that no one (including the public, off-site nonresidential workers, recreational users, and EJ populations) would experience any acute or chronic cancer or non-cancer effects of health significance during construction and operation of the project. Therefore, construction and operation of the project would not cause significant adverse direct or indirect public health impacts from the project's toxic air emissions and no additional mitigation is needed. Likewise, the project would not cause disproportionate public health impacts on sensitive populations, such as the EJ population represented in **Error! Reference source not found.** and

Figure 4.21-2.

The air quality analysis considers the most sensitive and most protected of the general population, which includes the EJ population; therefore, the conclusions of the analysis would include that of the EJ population. Project impacts were evaluated, and it was concluded that air quality impacts during the construction of the project would be less than significant with PDFs incorporated and air quality impacts for all criteria pollutants during operation of the project would be less than significant. Both construction and operational emissions from the project with PDFsincorporated would not cause or contribute to a violation of any state or federal ambient air quality standard, or conflict with applicable plans and programs to attain or maintain ambient air quality. Based on these conclusions, the project would not cause disproportionate air quality impacts for sensitive populations like the EJ population represented in **Error! Reference source not found.** and

Figure 4.21-2. **(Less than Significant Impact)**

Cultural and Tribal Cultural Resources

The analysis did/did not identify any Native American EJ populations that either reside within six miles of the Project Site or that rely on any subsistence resources that could be impacted by the Project Site. **(No Impact)**

Hazards and Hazardous Materials

EJ populations may experience disproportionate hazards and hazardous materials impacts if the storage and use of hazardous materials within or near EJ communities occur to a greater extent than within the community at large. The possibility of a disproportionate impact upon the EJ population resulting from the planned storage and use of hazardous materials on the site is low. The project would contain diesel fuel, a hazardous material, to run the emergency generators. As discussed in Section **Error! Reference source not found.Error! Reference source not found.**, each generator unit and its integrated fuel tanks would be designed with double walls. The interstitial space between the walls of each tank would be continuously monitored electronically for the existence of liquids. This monitoring system would be electronically linked to an alarm system in the engineering office that would alert personnel if a leak were detected. Additionally, the standby generator units would be housed within a self-sheltering enclosure that prevents the intrusion of storm water. Therefore, the likelihood of a spill of sufficient quantity to impact the surrounding community and EJ population would be very unlikely and is considered less than significant. Further, implementation of Project Design Features would ensure potential existing soil and groundwater contamination on the site would not be released into the environment. **(Less than Significant Impact)**

Hydrology and Water Quality

A disproportionate hydrologic or water quality impact on an EJ population could occur if a project required substantial groundwater resources or contributed significantly to surface water or groundwater quality degradation.

As discussed in Section **Error! Reference source not found.Error! Reference source not found.**, the project is not located within a designated groundwater recharge zone, and therefore would not require substantial groundwater resources. The project is not expected to significantly contribute to surface water degradation, as it would include stormwater quality best management practices (BMPs) such as directing site runoff into bioretention areas. The project would be required to comply with the Clean Water Act by controlling the discharge of pollutants in storm water during its construction and operation phases. Additionally, implementation of Project Design Features would reduce hydrology impacts to less than significant levels. The project would be designed in accordance with the North San Jose Floodplain Management Policy and would not impede or redirect flood flows. Therefore, the project is not expected to negatively impact water quality or flood hazards and would not result in a disproportionate impact to the local EJ population. Additionally, implementation of the City's Standard Permit Conditions would reduce impacts from construction activities to less than significant levels. The project's hydrology and water quality impacts would be reduced to less than significant for all the area's population, including the EJ population. **(Less than Significant Impact)**

Land Use and Planning

A disproportionate land use impact on an EJ population could occur if a project would physically divide the established community of an EJ population or if a project near an EJ population would conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental impacts on a population.

As discussed in Section 4.11 Land Use and Planning, the project would not divide an existing community, as the site is on land designated and zoned for industrial uses and is generally surrounded by industrial uses and commercial uses. The Project Site is designated *IP-Industrial Park and CIC-Combined Industrial/Commercial* under the City's General Plan and would be consistent with the land use designation. No conflicts with plans, policies, or related land use regulations would occur.

The site is currently zoned *CIC-Combined Industrial/Commercial Zoning District,* which allows for commercial, office, or industrial developments or a compatible mix of these uses. Data centers are allowed upon issuance of a Special Use Permit, and utility facilities are allowed upon issuance of a Conditional Use Permit. The project would not pose significant individual impacts relating to land use and planning; therefore, no disproportionate impacts on the EJ population would occur either. **(No Impact)**

Noise and Vibration

EJ populations may experience disproportionate noise impacts if the siting of unmitigated industrial facilities occurs within or near EJ communities to a greater extent than within the community at large. As depicted in Figures 4.21-1 and 4.21-2, the Project Site is located within an area of low-income and high minority populations.

Demolition and construction activities would increase existing noise levels at the adjacent land uses, but they would be temporary and intermittent. As discussed in Section 4.13 Noise and Vibration, implementation of measures incorporated into the project design would reduce construction noise impacts to less than significant levels. Therefore, potential noise effects related to demolition and construction would not result in a significant noise impact on the area's population, including the EJ population.

The noise from operating the facility would not exceed the City's noise limits at the nearest land uses. Therefore, project noise would comply with the city's noise limits, and thus, its noise impacts would be reduced to less than significant for all the area's population, including the EJ population. **(Less than Significant Impact)**

Population and Housing

The potential for population and housing impacts to EJ populations is predominantly driven by the temporary influx of nonlocal construction workers seeking lodging closer to a Project Site. For the project, the construction workers would be drawn from the greater Bay Area and would not likely seek temporary lodging closer to the Project Site. The project would be a low employment-generating use once constructed. Therefore, approval of the project would not substantially increase

jobs in the City. The operations workers are also anticipated to be drawn from the greater Bay Area and would not likely seek housing closer to the Project Site. If some operations workers were to relocate closer to the Project Site, there would be sufficient housing in the project area.

A population and housing impact could disproportionately affect an EJ population if the project were to displace minority or low-income residents from where they live, causing them to find housing elsewhere. If this occurs, an EJ population may have a more difficult time finding replacement housing due to racial biases and possible financial constraints. As discussed in Section **Error! Reference source not found.Error! Reference source not found.**, the project would not displace any residents or remove any housing; therefore, there would be no disproportionate impact to EJ populations from this project. **(No Impact)**

Transportation and Traffic

Significant reductions in levels of service have the potential to significantly impact EJ populations. In particular, an impact to bus transit, pedestrian facilities, or bicycle facilities could cause disproportionate impacts to low-income communities, as low-income residents more often use these modes of transportation. However, as discussed in Section 4.17 Transportation, all transportation and traffic impacts, including impacts to alternative transportation, would be less than significant, and therefore, would cause less than significant impacts to EJ populations.[98] Likewise, transportation and impacts would not be disproportionate. **(Less than Significant Impact)**

Utilities and Service Systems

A disproportionate utility or service system impact on an EJ population could occur if a project required substantial water resources or significantly impacted wastewater treatment facility and landfill capacity. As determined in Section **Error! Reference source not found.Error! Reference source not found.** section, adequate water supply is available to serve the project. The project would, therefore, not result in a disproportionate impact to the local EJ population.

There is also significant remaining capacity at the local landfill and wastewater treatment facilities that would be utilized by the project. No changes or expansion to the landfill or wastewater treatment facility would be needed to accommodate this project. The project would also be required to comply with state and local regulations that apply to construction and operation waste. These regulations would require that wastes are managed to meet waste diversion goals and protect public health and safety. The project would, therefore, not have a disproportionate impact on the EJ population.

The project's Utilities and Service Systems impacts would be less than significant for all the area's population, including the EJ population. **(Less than Significant)**

[98] As noted in Section 4.17 Transportation, a VMT Analysis is currently being completed and will be provided to the CEC in a subsequent submittal. If the VMT Analysis identifies significant impacts, this language will be modified.

SECTION 5.0 GROWTH-INDUCING IMPACTS

The CEQA Guidelines require that an EIR identify the likelihood that a proposed project could "foster" or stimulate "economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment" (Section 15126.2(d)). This section of the SPPE Application is intended to evaluate the impacts of such growth in the surrounding environment.

The Project is proposed on an infill site in the City of San José. The Project Site is undeveloped but is surrounded by existing infrastructure and both existing and planned development. The Project includes construction of infrastructure improvements such as an electric substation and a recycled water line extension, both of which are intended to serve the Project, not the surrounding area. Although the recycled water line extension could be used by future development in the Project vicinity, the area is already planned for growth in the City's General Plan, and the extension of a recycled water line would not result in unplanned growth. As a result, the Project does not include expansion of the existing infrastructure that would facilitate growth in the Project vicinity or other areas of the City.

Development of the Project Site would place a new data center in the middle of an industrial area. The proposed Project would be compatible with the surrounding land uses and would not pressure adjacent industrial, office, and commercial properties to redevelop with new or different land uses.

The Project would not have a significant growth inducing impact. **(Less Than Significant Impact)**

SECTION 6.0 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

This section was prepared pursuant to CEQA Guidelines Section 15126.2(c), which requires a discussion of the significant irreversible changes that would result from the implementation of a proposed Project. Significant irreversible changes include the use of nonrenewable resources, the commitment of future generations to similar use, irreversible damage resulting from environmental accidents associated with the Project, and irretrievable commitments of resources. Applicable environmental changes are described in more detail below.

6.1 USE OF NONRENEWABLE RESOURCES

The proposed Project, during construction and operation, would require the use and consumption of nonrenewable resources. Unlike renewable resources, nonrenewable resources cannot be regenerated over time. Nonrenewable resources include fossil fuels and metals. Renewable resources, such as lumber and other wood byproducts, could also be used.

Energy would be consumed during both the construction and operational phases of the Project. The construction phase would require the use of nonrenewable construction material, such as concrete, metals, and plastics, and glass. Nonrenewable resources and energy would also be consumed during the manufacturing and transportation of building materials, preparation of the site, and construction of the buildings. The operational phase would consume energy for multiple purposes including, building heating and cooling, lighting, appliances, and electronics. Energy, in the form of fossil fuels, would be used to fuel vehicles traveling to and from the Project Site.

The Project would not result in a substantial increase in demand for nonrenewable resources. The Project would, however, be subject to the standard California Code of Regulations Title 24 Part 6 and CALGreen energy efficiency requirements.

As discussed in *Section 4.5, Energy*, the Project is consistent with the City's General Plan policies regarding energy use, which fosters development that reduces the use of nonrenewable energy resources in transportation, buildings, and urban services (utilities).

SECTION 7.0 SIGNIFICANT AND UNAVOIDABLE IMPACTS

A significant unavoidable impact is an impact that cannot be mitigated to a less than significant level if the project is implemented as it is proposed. The Project would not result in significant unavoidable impacts.

SECTION 8.0 ALTERNATIVES

8.1 EVALUATION CRITERIA

The primary goal of the Project is to be a state-of-the-art data center that provides greater than 99.999 percent reliability (fine nines of reliability). The Project has been designed to reliably meet the increased demand of digital economy, its customers and the continued growth. The Project's purpose is to provide mission critical space to support servers, including space conditioning and a steady stream of high-quality power supply. Interruptions of power could lead to server damage or corruption of the data and software stored on the servers by Microsoft's clients. The Project would be supplied electricity by PG&E delivered to a new Microsoft owned and operated on-site substation through a new distribution PG&E owned and operated switching station, which would be constructed on the Project Site immediately adjacent to the Microsoft substation.

To ensure a reliable supply of high-quality power, the backup generation facilities for the Project was designed to provide backup electricity to the data center only in the event electricity cannot be supplied from PG&E and delivered to the two data center buildings. To ensure no interruption of electricity service to the servers housed in the data center buildings, the servers would be connected to uninterruptible power supply (UPS) systems that store energy and provide near-instantaneous protection from input power interruptions. However, to provide electricity during a prolonged electricity interruption, the UPS systems would require a flexible and reliable backup power generation source to continue supplying steady power to the servers and other equipment. The backup generating facilities would provide that backup power generation source.
Microsoft's specific Project objectives are as follows:

- Meet the continuing need for a data center to support the San José region's growing business and work force population as well as its growth as a center of innovation consistent with San José's planned land use vision.
- Construct and operate a data center that maximizes the use of the Project Site to house computer servers, supporting equipment, and associated administrative office uses in an environmentally controlled structure with redundant subsystems (cooling, power, network links, storage, fire suppression, etc.) and can be built in two phases to accommodate customer growth.
- Locate the data center on property long-planned for industrial uses that is in proximity to existing circulation and utility infrastructure, emergency response access, and on a site capable of being protected, to the maximum extent feasible, from security threats, natural disasters, and similar events.
- Design the proposed data center such that it can be provided with operational electric power via a new electric 115-kilovolt (kV) substation, and efficiently extend, connect to or otherwise install other utility infrastructure to adequately serve the Project, including water, storm drainage, sanitary sewer, electric and telecommunications, as well as new bike trail improvements.
- Ensure the data center achieves reduced access latency (defined as the time it takes to access data across a network).

- To incorporate the most reliable and flexible form of backup electric generating technology into the data center considering the following evaluation criteria:
    - **Reliability**. The selected backup electric generation technology must be extremely reliable in the case of an emergency loss of electricity from the utility.
        - The backup generating facility must provide a higher reliability than 99.999 percent in order for the data center to achieve an overall reliability of equal to or greater than 99.999 percent.
        - The backup generating facility must provide reliability to the greatest extent feasible during natural disasters including earthquakes.
        - The selected backup electric generation technology must have a proven built-in resilience so if any of the backup unit(s) fail due to external or internal failure, the system will have redundancy to continue to operate without interruption.
        - The data center must have an on-site means to sustain power for 48 hours' minimum in failure mode, inclusive of utility outage.
    - **Commercial Availability and Feasibility**. The selected backup electric generation technology must currently be in use and proven as an accepted industry standard for technology sufficient to receive commercial guarantees in a form and amount acceptable to financing entities. It must be operational within a reasonable timeframe where permits, entitlements and approvals are required.
    - **Technical Feasibility**. The selected backup electric generation technology must utilize systems that are compatible with one another.
- Incorporate use of renewable fuels where feasible as primary fuel for backup generators.
- Incorporate, as feasible, environmentally sustainable features into the Project, such as bird-friendly building design components.

As part of the preliminary planning and design of the Project, Microsoft considered alternatives to the proposed backup generators and use of a smaller capacity system. For completeness purposes, a discussion of the No Project Alternative is also included.

8.2 REDUCED CAPACITY SYSTEM

Microsoft considered a backup generating system with less emergency generators but like the No Project Alternative discussed below, any generating capacity less than the total demand of the data center at maximum occupancy would not allow Microsoft to provide the critical electricity that would be needed during an emergency. It is important to note that in addition to the electricity that is directly consumed by the servers themselves, the largest load of the data center is related to cooling the rooms where the servers are located. In order for the servers to reliably function, they must be kept within temperature tolerance ranges. The industry standard is to design and operate a building that can meet those ranges even during a loss of electricity provided by the existing electrical service provider. Therefore, in order for Microsoft to provide the reliability required it was necessary to provide a backup generating system that could meet the maximum load of the Project during full occupancy and include redundancy as described in Section 3.3.4.4. A reduced capacity system would not fulfill the basic Project Objectives of the Project.

8.3 BACKUP ELECTRIC GENERATION TECHNOLOGY ALTERNATIVES

Microsoft considered using potentially available alternative technologies: gas-fired turbines; flywheels; gas-fired reciprocating internal combustion engines; batteries; fuel cells; and alternative fuels. As discussed below, none of the technologies considered could meet the overall Project Objectives because they were commercially or technically infeasible and/or would not meet the necessary standard of reliability during an emergency.

8.3.1 Flywheels

Flywheel energy storage systems use electric energy input which is stored in the form of kinetic energy. Kinetic energy can be described as "energy of motion," in this case the motion of a spinning mass, called a rotor. The rotor spins in a nearly frictionless enclosure. When short-term backup power is required because utility power fluctuates or is lost, the inertia allows the rotor to continue spinning and the resulting kinetic energy is converted to electricity.

Microsoft has concluded that flywheel technology would not be a viable option and could not meet the Project Objectives for the following reasons:

- Flywheel technology does not perform within the required reliability levels of Microsoft and is prone to system failure.
- Flywheel technology requires an extensive amount of maintenance to keep each energy storage system functioning.
- Flywheel systems cannot provide sufficient time duration (e.g., 48 hours or more) as a backup generation as the flywheel motion can typically only sustain 10 to 30 second outages at a time.

8.3.2 Gas-Fired Turbines

Microsoft considered using natural gas-fired turbines instead of diesel generators to supply backup power for the Project. This technology option was rejected because it would not meet the Project Objectives. Natural gas turbines have the advantage of better emission of NO_x and CO than diesel. However, as an emergency backup choice, it has the following deficiencies:

1) The gas infrastructure is more likely to have curtailment of the natural gas supplies during natural disasters and other emergency loss of utility power.
2) On-site storage or delivery of natural gas to address the curtailment issues during an emergency is impossible to support long duration of backup (48 hours or longer time) due to the volume required.
3) The natural gas turbine is better suited for continuous operation instead of standby mode, which makes maintenance challenging.
4) The natural gas turbine needs minimum loads (30%), so additional load banks are required on-site, leading to the change of design in terms of reliability and the use of more fuel than is necessary and leading to the wasting of electricity through the load bank.
5) Typical turbine engines have larger system sizes (4MW-50MW), while the smaller ones such as micro-turbines of 2.5MW will use twice the physical footprint and cost twice as much as the proposed generation technology.

Therefore, natural gas turbines are not considered reliable enough to meet the extremely high reliability requirements of the Project, a mission critical data center facility. A fixed fuel source such as a natural gas pipeline introduces another potential point of failure or load curtailment. Taking into account the natural gas outages from maintenance and repair by the utility, interruption due to construction accidents within the system, long-term damage and interruption during an earthquake, or outages caused by problems within the greater distribution system are higher probability occurrences than being able to obtain renewable or CARB 2 diesel fuel for longer than 48-hour outages.

Although Microsoft is developing the San Jose City Data Center (SJC02) with the use of natural gas generators to be operated by Enchanted Rock, the SJC02 site enjoys a unique setting. The SJC02 site has two redundant high pressure natural gas pipelines that deliver natural gas from two separate regional backbones. This setting is largely due to the existence of the natural gas pipeline that was built as part of the Los Esteros power plant adjacent to the SJC02 site. The SJC02 site is able to maintain redundant interconnections to both of the high-pressure natural gas pipelines. These two independent pipelines, connected to independent sources of natural gas supply, increases the probability of natural gas being delivered to the SJC02 site during emergencies that likely could interfere with operations of one of the delivery pipelines. Microsoft has determined that the reliability of the SJC02 project can therefore meet its Project Objectives for that data center due to the unique provision of natural gas pipeline redundancy for the SJC02 site.

In contrast thereto, the Project Site does not have the ability to interconnect to two independent high pressure natural gas pipelines that provide natural gas from two different independent gas systems. Therefore, this alternative was rejected as not being able to meet the Project Objectives.

8.3.3 Gas-Fired Reciprocating Engines

Microsoft considered using natural gas-fired reciprocating engines instead of diesel generators to supply emergency backup power for the Project. This technology option was rejected because it would require interconnection to a single natural gas pipeline in the same manner as discussed above for Gas-Fired Turbines. For the reasons discussed above a single point of interconnection would not meet the reliability needs outlined in the Project Objectives. Additionally, as discussed above, storage of sufficient natural gas on- site to maintain emergency backup electricity demands of the Project during an outage would not be tenable given the volume of natural gas that would be required.

8.3.4 Battery Storage

Microsoft considered using batteries alone as a source of emergency backup power. The primary reason batteries alone were rejected was the limited duration of battery power. Batteries can provide power quickly, which is the reason Microsoft has incorporated them into the overall backup electrical system design through the use of the UPS. As described in Section 3.3.5.1, batteries in the UPS System would be initiated at the first sign of electricity interruption. However, the current state of battery technology does not allow for long durations of discharge at building loads as high as planned for the Project. Maximum discharging time is about 5 hours when doubled up from one ISO container to two, which needs more physical space. In addition, Lithium-ion batteries have more restrictive California Fire Code regulations. Renewable non-Lithium-ion battery such as ZnMnO2 is

not commercially feasible for data centers yet. Once the standalone batteries are completely discharged, the only way they can be recharged without on-site generation is if the utility electrical system is back up and running. Since it is not possible to predict the duration of an electricity outage, batteries are not a viable option for emergency electrical power. Therefore, because battery storage cannot provide the duration that may be necessary during an emergency, this technology option was rejected as technically and commercially infeasible and unable to meet the Project Objectives.

In addition, in order to provide 48-hour emergency backup electrical capacity, approximately 10 ISO containers representing approximately ten times the amount of real estate would be required. The Project Site would not accommodate the number of batteries necessary.

8.3.5 Fuel Cells – Backup Replacement

Fuel cells can provide both primary and off grid power. The fuel cells utilized by Bloom Energy and others are solid Oxide Fuel Cells (SOFC) that operate in high temperature of 750 Deg C, they need to stay hot to provide power. As a choice of backup, fuel cells need to run continuously in dual modes, as a primary source, or a standby mode when the grid is off (islanding mode). The fuel cells have additional ultra-capacitors to cope with the 10-20 second load transfer time to match up with diesel generation technology.

The fuel cell has the following technical issues that negatively affect its ability to be utilized as an emergency backup generation option.

1) It needs to run continuously to provide base load electricity to stay hot. This is why large data centers (Equinix, Apple, Yahoo) use Bloom Energy as a primary source and maintain their existing emergency diesel generation fleet as backup.
2) Fuel cells require approximately three times more space than the emergency generators proposed for the Project and stacking is challenging and difficult and expensive to design to applicable codes.
3) Fuel cells rely on the natural gas as feed stock, so the issues with natural gas infrastructure and on-site storage described above also limit reliability.

There are fuel cell technologies (Proton Exchange Membrane) that utilize liquid hydrogen as a fuel. This type of fuel cell is mostly used for mobile sources and can start cold quicker similar to a combustion engine. Microsoft understands that there are pilot programs to scale this type of fuel cell to larger sizes. However, the issues that impair achievement of the Project Objectives with use of of this technology include:

1) The technology is not yet commercially available at sizes necessary for a large data center.
2) The footprint is projected to be about twice the size of the proposed emergency generators.
3) On-site storage of 48 hours of liquid hydrogen would take significant additional space not available at the Project Site.
4) The potential for on-site and off-site impacts of a large release of liquid hydrogen which would be stored at pressure (6000 PSI) at the Project Site would be likely unacceptable within San José and conflict with the San José International Airport Master Plan.

8.3.6 Fuel Cells – Primary Generation/Grid Backup

Microsoft has evaluated generating primary electricity with fuel cells on-site and relying on the electricity grid for emergency backup electricity. One example of primary power is that Equinix has partnered with Bloom Energy over the last 5 years to deploy over 45 MW of fuel cell technology at various sites around the country using fuel cells as base load. There are other sites, such as Home Depot, where Bloom Energy fuel cells provide primary electricity. However, we are unaware of any data center fuel cell application where fuel cells provide the full electricity needs for the data center without the bulk of the primary power being delivered by a utility.

There are two primary reasons that this solution cannot achieve Microsoft's Project Objectives. The first is that it is unlikely that PG&E would procure and reserve the amount of electricity necessary to power the Project in perpetuity as a backup source on demand. The magnitude of electricity for such an event after full buildout of the Project would render such an option infeasible. Therefore, use of fuel cells as primary generation would not replace the need to install the proposed emergency backup generators in order to meet the Project Objectives.

SECTION 9.0 REFERENCES

The analysis in this SPPE Application is based on the professional judgement and expertise of the environmental specialists preparing this document, based upon review of the site, surrounding conditions, site plans, and the following references:

Association of Bay Area Governments and Metropolitan Transportation Commission. Plan Bay Area 2050. October 21, 2021. Page 20.

Association of Bay Area Governments. Projections 2040. November 2018.

Burns McDonnell. Phase I Environmental Site Assessment 07SW 350 West Trimble Road San José, California. December 14, 2020. Page 4-2.

California Building Standards Commission. "California Building Standards Code." Accessed July 22, 2022. https://www.dgs.ca.gov/BSC/Codes#@ViewBag.JumpTo.

California Department of Conservation. Santa Clara County Important Farmland 2018 Map. https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed July 14, 2022.

California Department of Conservation. "Farmland Mapping and Monitoring Program." July 14, 2022 http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx.

---. "Williamson Act." http://www.conservation.ca.gov/dlrp/lca.

California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2021-2022, http://dq.cde.ca.gov/dataquest/

California Department of Finance. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2021-2022." May 2022.

California Department of Forestry and Fire Protection. "FHSZ Viewer". Accessed July 25, 2022. https://egis.fire.ca.gov/FHSZ/

---. "Fire and Resource Assessment Program." Accessed July 14, 2022. http://frap.fire.ca.gov/.

California Department of Housing and Community Development. "Regional Housing Needs Allocation and Housing Elements" Accessed July 19, 2022. http://hcd.ca.gov/community-development/housing-element/index.shtml.

California Department of Tax and Fee Administration. "Net Taxable Gasoline Gallons." Accessed July 20, 2022. https://www.cdtfa.ca.gov/dataportal/dataset.htm?url=VehicleTaxableFuelDist.

California Department of Transportation. "Scenic Highways." Accessed July 13, 2022. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways.

---. Transportation and Construction Vibration Guidance Manual. September 2013.

California Energy Commission (CEC). "2019 Building Energy Efficiency Standards." Accessed July 22, 2022. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency.

---. "Natural Gas Consumption by County." Accessed July 25, 2022. http://ecdms.energy.ca.gov/gasbycounty.aspx.

---. "Renewables Portfolio Standard – Verification and Compliance." Accessed July 25, 2033. https://www.energy.ca.gov/programs-and-topics/programs/renewables-portfolio-standard/renewables-portfolio-standard

---. California Energy Commission California Refinery Inputs. 2022. Accessed July 25, 2022. https://tableau.cnra.ca.gov/t/CNRA_CEC/views/WFW2_0_16391728913510/CaliforniaRefineryInputsandProduction?%3Adisplay_count=n&%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Aorigin=viz_share_link&%3AshowAppBanner=false&%3AshowVizHome=n

---. Energy Consumption Data Management System. "Electricity Consumption by County." Accessed July 25, 2022. http://ecdms.energy.ca.gov/elecbycounty.aspx.

---. Final 2021 Integrated Energy Policy Report Volume IV California Energy Demand Forecast. February 17, 2022. Page 21. file:///C:/Users/mmcnamara/Downloads/TN241581_20220217T142233_ADOPTED%20Final%202021%20Integrated%20Energy%20Policy%20Report%20%20Volume%20IV%20California%20En.pdf

California Environmental Protection Agency. "Cortese List Data Resources." Accessed May 28, 2020. https://calepa.ca.gov/sitecleanup/corteselist/.

California Gas and Electric Utilities. 2020 *California Gas Report.* Accessed July 20, 2022. https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf.

California Geological Survey. "Earthquake Zones of Required Investigation." Accessed July 13, 2022. https://maps.conservation.ca.gov/cgs/EQZApp/app/.

California Office of Historic Preservation. "CEQA Guidelines Section 15064.5(a)(3) and California Office of Historic Preservation Technical Assistance Series #6." Accessed August 31, 2020. http://www.ohp.parks.ca.gov/pages/1069/files/technical%20assistance%20bulletin%206%202011%20update.pdf.

California Regional Water Quality Control Board. San Francisco Bay Region Municipal Regional Stormwater NPDES Permit. November 2015.

CalRecycle. Analysis of the Progress Toward the SB 1383 Organic Wase Reduction Goals. August 18, 2020. https://www2.calrecycle.ca.gov/Publications/Details/1693#:~:text=Analysis%20of%20the%20Progress%20Toward,(DRRR%2D2020%2D1693)&text=SB%201383%20establishes%20targets%20to,75%20percent%20reduction%20by%202025.

City of San José. "Heritage Trees." Map. Accessed July 13, 2022. https://csj.maps.arcgis.com/apps/webappviewer/index.html?id=5d556fc20dad4a8b88eb9ee813f95ee9.

---. "Historic Resource Inventory." Accessed April 20, 2020. https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/historic-preservation/historic-resources-inventory

---. "Historic Resources Inventory." Accessed August 6, 2022 https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/historic-preservation/historic-resources-inventory

---. “Private Sector Green Building.” Accessed: July 22, 2022. https://www.sanjoseca.gov/your-government/departments-offices/environmental-services/energy/green-building/private-sector-green-building

---. “San José-Santa Clara Regional Wastewater Facility”. Accessed December 18, 2019: http://sanJoséca.gov/index.aspx?nid=1663.

---. “Scenic Corridors Diagram”. June 6, 2016. Accessed July 13, 2022. https://www.sanjoseca.gov/home/showpublisheddocument/22565/636688980487230000

---. Envision San José 2040 General Plan Final Program EIR.

---. 2040 General Plan FEIR. September 2011.

---. Addendum to the Envision San José 2040 General Plan Final Program Environmental Impact Report and Supplemental Program Environmental Impact Report. November 2016. Page 16.

---. Assessment of Infrastructure for the Integrated Waste Management Zero Waste Strategic Plan Development. 2008.

---. City of San José 2020 Urban Water Management Plan. June 2021. https://www.sanjoseca.gov/home/showpublisheddocument/422/637602045327100000

---. Envision San José 2040 General Plan Draft Program Environmental Impact Report. June 2011. https://www.sanjoseca.gov/home/showpublisheddocument/22041/636688304350830000

---. Final Program Environmental Impact Report North San Jose Development Policies Update. https://www.sanjoseca.gov/home/showpublisheddocument/21903/636688268894370000

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

---. San José Better Bike Plan 2025. October 2020. Accessed July 14, 2022. https://www.sanjoseca.gov/home/showpublisheddocument/68962/637477999451470000

County of Santa Clara Department of Planning and Development. “Santa Clara County Geologic Hazard Zones.” Accessed July 13, 2022. Page 11. https://stgenpln.blob.core.windows.net/document/GEO_GeohazardATLAS.pdf.

Cristina Lindstrom, Associate Engineer. City of San José Department of Public Works. Email Communication. July 12, 2022.

Federal Emergency Management Agency. “FEMA Flood Map Service Center”. Accessed July 25, 2022. https://msc.fema.gov/portal/search?AddressQuery=370%20W%20Trimble%20Rd%2C%20San%20Jose%2C%20CA%2095131#searchresultsanchor

Norman Y. Mineta San José International Airport. “2027 CNEL Contours for Airport Master Plan)”. Amended June 8, 2010. Accessed July 14, 2022. https://www.flysanjose.com/sites/default/files/2017-03/2010_Contours.pdf

---. “2037 CNEL Contours for Airport Master Plan)”. Amended April 28, 2020. Accessed July 14, 2022. https://www.flysanjose.com/sites/default/files/noise/2037_CNEL.pdf

National Cooperative Highway Research Program. "Project 25-49 Data." October 2018. https://apps.trb.org/cmsfeed/trbnetprojectdisplay.asp?projectid=3889

Office of Planning and Research. "CEQA Review of Housing Projects Technical Advisory." January 2020. Accessed July 13, 2022. https://opr.ca.gov/docs/20190208-TechAdvisory-Review_of_Housing_Exemptions.pdf

Pacific Gas and Electric Company. "Exploring Clean Energy Solutions." Accessed July 25, 2022. https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy.

San Francisco Regional Water Quality Control Board. "The 303(d) List of Impaired Water Bodies." Accessed July 14, 2022. https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/303dlist.html.

San José Police Department. Central Division. Accessed July 14, 2022. https://www.sjpd.org/about-us/organization/bureau-of-field-operations/central-division

Santa Clara County Airport Land Use Commission. Comprehensive Land Use Plan Santa Clara County Norman Y. Mineta San José International Airport. Amended November 16, 2016. Accessed July 13, 2022. https://stgenpln.blob.core.windows.net/document/ALUC_SJC_CLUP.pdf.

---. Norman Y. Mineta San José International Airport. Amended November 16, 2016. https://stgenpln.blob.core.windows.net/document/ALUC_SJC_CLUP.pdf

---. Five-Year CIWMP/RAIWMP Review Report. June 2016.

Santa Clara Valley Water District. Groundwater Management Plan for the Santa Clara and Llagas Subbasins. November 2021. Accessed July 25, 2022. https://s3.us-west-2.amazonaws.com/assets.valleywater.org/2021_GWMP_web_version.pdf

State of California Department of Forestry and Fire Protection. Santa Clara County Fire Hazard Severity Zones in SRA. Adopted November 7, 2007.

United States Department of Energy. Energy Independence & Security Act of 2007. Accessed July 20, 2022. http://www.afdc.energy.gov/laws/eisa.

United States Department of Transportation. USDOT Announces New Vehicle Fuel Economy Standards for Model Year 2024-2026." Accessed July 20, 2022. https://www.nhtsa.gov/press-releases/usdot-announces-new-vehicle-fuel-economy-standards-model-year-2024-2026

United States Energy Information Administration. "California Energy Consumption by End-Use-Sector, 2020." Accessed July 20, 2022. https://www.eia.gov/state/?sid=CA#tabs-2.

---. "California Energy Consumption Estimate, 2020." Accessed July 20, 2022. https://www.eia.gov/state/?sid=CA#tabs-2.

---. "Frequently Asked Questions: How many gallons of gasoline and diesel fuel are made from one barrel of oil?". Last updated April 19, 2022. Accessed July 25, 2022. https://www.eia.gov/tools/faqs/faq.php?id=327&t=10#:~:text=Petroleum%20refineries%20in%20the%20United,gallon%20barrel%20of%20crude%20oil.

United States Environmental Protection Agency. Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

"Summary of the Resource Conservation and Recovery Act." Accessed May 11, 2020. https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act.

---. "Superfund: CERCLA Overview." Accessed May 11, 2020. https://www.epa.gov/superfund/superfund-cercla-overview.

---. The 2021 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975. November 2021. https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013L1O.pdf

United States Geological Survey. Mineral Resources Online Spatial Data: Interactive maps and downloadable data for regional and global Geology, Geochemistry, Geophysics, and Mineral Resources. Accessed July 14, 2022. https://mrdata.usgs.gov/

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

United States Army Corps of Engineers San Francisco District, Port of Oakland. Oakland Harbor Navigation Improvement (-50 foot) Project SCH No. 97072051 Final Environmental Impact Statement/Report, May 1998, updated January 2000.

Valley Water. 2016 Groundwater Management Plan. Available at: https://s3.us-west-2.amazonaws.com/assets.valleywater.org/2016%20Groundwater%20Management%20Plan.pdf.

---. 2021 Groundwater Management Plan, Santa Clara and Llagas Subbasins. November 2021.

SECTION 10.0 AGENCY CONTACTS AND LIST OF CONSULTANTS

10.1 AGENCY CONTACTS

Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

Ariana Husain
Permit Engineer
(415) 749-8433
ahusain@baaqmd.gov

Greg Stone
Supervising Air Quality Engineer
(415) 749-4745
gstone@baaqmd.gov

PG&E
77 Beale Street
San Francisco, CA 94105

Jerry Hutchison
Strategic Account Manager
(408) 309-2340
JAHo@pge.com

City of San José
City Hall
200 E. Santa Clara Street
San José, CA 95113

David Keyon
Principal Planner
Environmental Review
(408) 535-7898
david.keyon@sanjoseca.gov

Santa Clara Valley Transportation Authority
3331 North First Street
San José, CA 95134-1927

Roy Molseed
Senior Environmental Planner
(408) 321-5784
Roy.Molseed@VTA.org

10.2 CONSULTANTS AND PREPARERS

David J. Powers & Associates, Inc.
Environmental Consultants and Planners

Atmospheric Dynamics, Inc.
Air Quality Consultants

Burns & McDonnell Engineering Company, Inc.
Hazardous Materials Consultants

Environmental Systems Design, Inc. Engineering and Design Consultants

HMH
Civil Engineers

H.T. Harvey & Associates
Ecological Consultants

Hexagon Transportation Consultants
Transportation Consultants

PaleoWest
Cultural Resources Consultants

Terracon Consultants, Inc.
Geotechnical Consultants

Todd Groundwater
Hydrological Consultants

Appendix AQ-1

Emissions Data for Criteria and Toxic Pollutants

Table AQ1-1 Emissions Estimates for Emergency Standby Generators

Engine Mfg:	**Caterpillar**	# of Units:	32		Max # of Engines Tested per Day:	8		# Redundant Engines:	0						
Model #:	**C175-16**				*(engines are not tested concurrently)*			Emer Ops Engines:	32						
Fuel:	ULSD	**Engine Data**												***METRIC UNITs***	
											Stk Flow,	**Stack Vel,**		**Stk Temp,**	
Fuel S, %wt:	0.0015	**BHP**	**kWe**	**Load %**	**RPM**	**Fuel, gph**	**Stk Ht, ft**	**Stk Diam, in**	**Stk Temp, F**	**mmbtu/hr**	**ACFM**	**f/s**	**Stk Diam, m**	**Kelvins**	**Stk Vel, m/s**
Fuel wt, lb/gal:	7.05	4376	3100	100	1800	209	135	28	890.4	29.05	25320.3	98.6902	0.7112	750.04	30.0808
Btu/gal:	139000														
Lbs S/1000 gal:	0.10575														
Lbs SO2/1000 gal:	0.2115	(use 0.005 g/bhp-hr as default SO2 factor for all loads)													
EPA Tier:	4														
Control System:	SCR and Oxidation Catalyst + DPF to Meet T4														
Turbocharged:	Yes								Stack Exit Area (sq.ft) =	4.276057					
Aftercooled:	Yes														

	Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
Scenarios	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.02	0.02	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.50	2.60	0.18	0.005	0.02	0.02	163.052
Weighted EF Input and Calculation Data							
0.25 hr Uncontrolled , using EPA T2 EFs, 100% Load, w/DPF	4.5	2.6	0.3				
0.75 hr Controlled, using Tier 4 EFs, 100% Load, w/DPF	0.5	2.6	0.14				

	Controlled Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.02	0.02	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.50	2.60	0.18	0.005	0.02	0.02	163.052

Scenario 1: **Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load**

Redundant engines do NOT operate during emergency operations.

Max Hourly Runtime: 1
Max Daily Runtime: 24
Max Annual Runtime: 100

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.824	25.083	1.351	0.048	0.193	0.193	na
lbs/day	115.770	602.003	32.416	1.158	4.631	4.631	na
TPY	0.241	1.254	0.068	0.002	0.010	0.010	236.8

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	154.36	802.67	43.22	1.54	6.17	6.17	na
lbs/day	3704.63	19264.09	1037.30	37.05	148.19	148.19	na
TPY	7.72	40.13	2.16	0.077	0.309	0.309	7578.92

Scenario 2: **Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load**

Max Hourly Runtime: 1
Max Daily Runtime: 1
Max Annual Runtime: 50

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	14.471	25.083	1.737	0.048	0.193	0.193	na
lbs/day	14.471	25.083	1.737	0.048	0.193	0.193	na
TPY	0.362	0.627	0.043	0.001	0.005	0.005	118.4

8 Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	14.471	25.083	1.737	0.048	0.193	0.193	na
lbs/day	115.770	200.668	13.892	0.386	1.544	1.544	na

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
TPY	11.58	20.07	1.39	0.039	0.154	0.154	3789.46

C175-16 BAAQMD 150 Hrs/Yr Emissions Totals, TPY:	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
	19.295	60.200	3.550	0.116	0.463	0.463	11368.4

Table AQ1-2 Emissions Estimates for Emergency Standby Generators

Engine Mfg:	**Caterpillar**	# of Units:	4		Max # of Engines Tested per Day:	1		# Redundant Engines:	0						
Model #:	**C27**				*(engines are not tested concurrently)*			Emer Ops Engines:	4						
Fuel:	ULSD	**Engine Data**												***METRIC UNITs***	
											Stk Flow,	**Stack Vel,**		**Stk Temp,**	
Fuel S, %wt:	0.0015	**BHP**	**kWe**	**Load %**	**RPM**	**Fuel, gph**	**Stk Ht, ft**	**Stk Diam, in**	**Stk Temp, F**	**mmbtu/hr**	**ACFM**	**f/s**	**Stk Diam, m**	**Kelvins**	**Stk Vel, m/s**
Fuel wt, lb/gal:	7.05	1214	800	100	1800	56.5	Note	18	952.5	7.85	6011.7	56.6988	0.4572	784.54	17.2818
Btu/gal:	139000														
Lbs S/1000 gal:	0.10575														
Lbs SO2/1000 gal:	0.2115	(use 0.005 g/bhp-hr as default SO2 factor for all loads)													
EPA Tier:	4														
Control System:	SCR and Oxidation Catalyst + DPF to Meet T4														
Turbocharged:	Yes						Stack Exit Area (sq.ft) =	1.767146							
Aftercooled:	Yes														

	Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
Scenarios	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.02	0.02	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.50	2.60	0.18	0.005	0.02	0.02	163.052
Weighted EF Input and Calculation Data							
0.25 hr Uncontrolled , using EPA T2 EFs, 100% Load, w/DPF	4.5	2.6	0.3				163.052
0.75 hr Controlled, using Tier 4 EFs, 100% Load, w/DPF	0.5	2.6	0.14				163.052

	Controlled Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.500	2.600	0.140	0.005	0.020	0.020	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.50	2.60	0.18	0.005	0.020	0.020	163.052

Scenario 1: **Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load**

Max Hourly Runtime: 1
Max Daily Runtime: 24
Max Annual Runtime: 100

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	1.338	6.959	0.375	0.013	0.054	0.054	na
lbs/day	32.117	167.009	8.993	0.321	1.285	1.285	na
TPY	0.067	0.348	0.019	0.001	0.003	0.003	64.0

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	5.35	27.83	1.50	0.05	0.21	0.21	na
lbs/day	128.47	668.04	35.97	1.28	5.14	5.14	na
TPY	0.27	1.39	0.07	0.003	0.011	0.011	256.11

Scenario 2: **Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load**

Max Hourly Runtime: 1
Max Daily Runtime: 1
Max Annual Runtime: 50

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.015	6.959	0.482	0.013	0.054	0.054	na
lbs/day	4.015	6.959	0.482	0.013	0.054	0.054	na
TPY	0.100	0.174	0.012	0.0003	0.001	0.001	32.0

1 Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.015	6.959	0.482	0.013	0.054	0.054	na
lbs/day	4.015	6.959	0.482	0.013	0.054	0.054	na

All Engines

TPY	0.40	0.70	0.05	0.001	0.005	0.005	128.05

C27 BAAQMD 150 Hrs/Yr Emissions Totals, TPY:	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
	0.669	2.088	0.123	0.0040	0.016	0.016	384.2

Table AQ1-3 Cooling Towers-Wet Surface Condensers PM10/PM2.5 Based on Makeup Water TDS and Cycles of Concentration

Scenario or Project ID:	Microsoft DC Peak Water Demand SJC04 and SJC06 (for annual emissions and impacts)				
Indirect Cooling Systems	Reclaimed Water		**Tower Physical Data (optional)**		
# of Identical Towers:	64		# of Fans:	256	2 per cell
# of Cells in each Tower:	2			Individual Fan Data	
Operational Schedule: Hrs/day	24		Fan ACFM:		
Days/Year	365		Fan Diam (ft):		0 m
Hrs/Year	8760		Exit Vel (ft/sec)		0.000 m/s
Total tower circulation rate, gpm:	1300.0		Length (ft)		0.00 m
Flow of cooling water (lbs/hr)	650052.0		Width (ft)		0.00 m
TDS in Makeup Water: (mg/l or ppmw)	513.0		Deck Ht (ft)		0.00 m
Cycles of Concentration:	4.0		Fan Ht (ft)		0.00 m
Avg TDS of circ water (mg/l or ppmw)	2052.0	annual avg value			
Flow of dissolved solids (lbs/hr)	1333.91				
Fraction of flow producing drift*	1.00	1= worst case			
Control efficiency of drift eliminators, %	0.0005	0.000005			
Calculated drift rate (lbs water/hr)		3.25	78.0	Calc lbs/day	

	Per Tower	**Per Cell**	**All Towers**
PM10 emissions (lbs/hr)	**0.007**	**0.003**	**0.427**
PM10 emissions (lbs/day)	**0.160**	**0.080**	**10.244**
PM10 emissions (tpy)	**0.029**	**0.015**	**1.870**
PM2.5 fraction of PM10	1.00	1= worst case	
PM2.5 emissions (lbs/hr)	**0.007**	**0.003**	**0.427**
PM2.5 emissions (lbs/day)	**0.160**	**0.080**	**10.244**
PM2.5 emissions (tpy)	**0.029**	**0.015**	**1.870**

Notes:
Based on Method AP 42, Section 13.4, Jan 1995
*Technical Report EPA-600-7-79-251a, Page 63
Effects of Pathogenic and Toxic Materials Transported Via Cooling Device Drift - Volume 1.

Table AQ1-4 Cooling Towers-Wet Surface Condensers PM10/PM2.5 Based on Makeup Water TDS and Cycles of Concentration

Scenario or Project ID:	Microsoft DC Max Water Demand SJC04 and SJC06 (for 1 Hr and daily emissions and impacts)				
Indirect Cooling Systems	Reclaimed Water		**Tower Physical Data (optional)**		
# of Identical Towers:	64		# of Fans:	256	2 per sell
# of Cells in each Tower:	2			Individual Fan Data	
Operational Schedule: Hrs/day	24		Fan ACFM:		
Days/Year	365		Fan Diam (ft):		0 m
Hrs/Year	8760		Exit Vel (ft/sec)		0.000 m/s
Total tower circulation rate, gpm:	1718.0		Length (ft)		0.00 m
Flow of cooling water (lbs/hr)	859068.7		Width (ft)		0.00 m
TDS in Makeup Water: (mg/l or ppmw)	513.0		Deck Ht (ft)		0.00 m
Cycles of Concentration:	4.0		Fan Ht (ft)		0.00 m
Avg TDS of circ water (mg/l or ppmw)	2052.0	annual avg value			
Flow of dissolved solids (lbs/hr)	1762.81				
Fraction of flow producing drift*	1.00	1= worst case			
Control efficiency of drift eliminators, %	0.0005	0.000005			
Calculated drift rate (lbs water/hr)		4.30	103.1	Calc lbs/day	

	Per Tower	**Per Cell**	**All Towers**
PM10 emissions (lbs/hr)	**0.009**	**0.004**	**0.564**
PM10 emissions (lbs/day)	**0.212**	**0.106**	**13.538**
PM10 emissions (tpy)	**0.039**	**0.019**	**2.471**
PM2.5 fraction of PM10	1.00	1= worst case	
PM2.5 emissions (lbs/hr)	**0.009**	**0.004**	**0.564**
PM2.5 emissions (lbs/day)	**0.212**	**0.106**	**13.538**
PM2.5 emissions (tpy)	**0.039**	**0.019**	**2.471**

Notes:
Based on Method AP 42, Section 13.4, Jan 1995
*Technical Report EPA-600-7-79-251a, Page 63
Effects of Pathogenic and Toxic Materials Transported Via Cooling Device Drift - Volume 1.

Table AQ1-5 Calculation of Hazardous and Toxic Pollutant Emissions from Cooling Towers

Scenario: Microsoft DC SJC04/06 Buildout
Reclaimed Water from SBWR

Total GPM Recirc Rate thru Cooling Unit: 1.72E+03
Flow of Cooling Water (lbs/hr): 8.60E+05
Drift Rate, %: 5.00E-04

Op Hrs/Day: 24
Op Hrs/Yr: 8760

Total Cooling Units: 64
Conc Cycles: 4

***Max Drift Rate: 4.298E+00 lbs/hr

Constituent	Conc in Cooling Tower Recirc Water		Total All Units Emissions, lb/hr	Total All Units Emissions, lb/day	Total All Units Emissions, lbs/yr		Single Unit Emissions, lb/hr	Single Unit Emissions, lb/day	Single Unit Emissions, lb/yr
Arsenic *	0.0006	ppm	1.03E-08	2.48E-07	9.04E-05		1.61E-10	3.87E-09	1.41E-06
Boron	0.396	ppm	6.81E-06	1.63E-04	5.96E-02		1.06E-07	2.55E-06	9.32E-04
Cadmium *	0.0001	ppm	1.72E-09	4.13E-08	1.51E-05		2.69E-11	6.45E-10	2.35E-07
Calcium	31.9	ppm	5.48E-04	1.32E-02	4.80E+00		8.57E-06	2.06E-04	7.51E-02
Chloride	165	ppm	2.84E-03	6.81E-02	2.49E+01		4.43E-05	1.06E-03	3.88E-01
Total Chromium *	0.0005	ppm	8.60E-09	2.06E-07	7.53E-05		1.34E-10	3.22E-09	1.18E-06
Copper *	0.0016	ppm	2.75E-08	6.60E-07	2.41E-04		4.30E-10	1.03E-08	3.77E-06
Iron	0.101	ppm	1.74E-06	4.17E-05	1.52E-02		2.71E-08	6.51E-07	2.38E-04
Lead *	0.0002	ppm	3.44E-09	8.25E-08	3.01E-05		5.37E-11	1.29E-09	4.71E-07
Magnesium	21	ppm	3.61E-04	8.67E-03	3.16E+00		5.64E-06	1.35E-04	4.94E-02
Mercury *	0.0000009	ppm	1.55E-11	3.71E-10	1.36E-07		2.42E-13	5.80E-12	2.12E-09
Nickel *	0.0029	ppm	4.99E-08	1.20E-06	4.37E-04		7.79E-10	1.87E-08	6.82E-06
Phosphate	0.928	ppm	1.60E-05	3.83E-04	1.40E-01		2.49E-07	5.98E-06	2.18E-03
Potassium	11.7	ppm	2.01E-04	4.83E-03	1.76E+00		3.14E-06	7.54E-05	2.75E-02
Silicon	6.55	ppm	1.13E-04	2.70E-03	9.87E-01		1.76E-06	4.22E-05	1.54E-02
Zinc	0.0136	ppm	2.34E-07	5.61E-06	2.05E-03		3.65E-09	8.77E-08	3.20E-05

Total Federal HAPs, lbs/yr: 8.89E-04
Total Federal HAPs, tons/yr: 4.44E-07

Notes:
(1) 2021 Annual reclaimed water analysis data supplied by project applicant.
(2) mg/l = ppm
(3) ug/l = ppb (convert ppb to equivalent ppm for entry: ppm=ppb/1000)
* indicates a federal HAP
(4) 4 cycles of concentration assumed for all calculations.

Table AQ1-6 Fixed Roof Tank Emissions Estimates

Ref: AP-42, Section 7.1, 11/2006

indicates input

Standing Storage Losses			***Comments***	**Note**
Type of organic liquid:	#2 ULS Diesel			
Vapor molecular weight:	Mw	130	AP-42	
Vapor density, lbs/ft3:	Vd	0.00015243		
Liquid density, lbs/gal	Dl	7.05	AP-42	
TVP, psia @ 60F	Vp	0.0065	AP-42 (consistent with Ta below)	
~ Tank diameter, ft.	D	12		
~ Tank height or length, ft.	H	60		
~ Tank capacity, gals	Tc	50000		
Avg vapor space height, ft.	Hv	4	annual avg value based on use versus tank refills	
Vapor space volume, ft3	Vv	452.39		
~Total tank volume, ft3	Tv	6684	Based on actual tank dimensions	
Avg Annual Temp, F	Ta	56.6	API Bulletin 2517, for SFO Airport	
Avg diurnal temp change, F	Tc	13.1	Avg max minus avg min.	
Paint factor	Pf	0.05	AP-42, Table 7.1-6, solar absorbance value	1
Product factor	Pd	1	Crude = 0.75, all others = 1	
Turnover factor	Kn	1	If turnover <36/year, the factor = 1. If >36 then calculate Kn. Per AP-42.	
Annual throughput, gals/yr	At	43000		
Vapor space expansion factor	Ke	0.04	AP-42, default value	
Vapor saturation factor	Ks	0.9986		
# of similar tanks		8	4 tanks per data cneter bldg	2
Standing Loss	**Ls**	**1.01**	**lbs/yr (breathing and standing losses)**	

Working Losses				
Vapor molecular weight:	Mw	130		
Vapor pressure, psia @ 70F	Vp	0.0065		
Throughput, bbl/yr	Q	1023.8		
Turnover factor	Kn	1		
Working loss product factor	Kp	1		
Working Loss	**Lw**	**0.87**	**lbs/yr (tank filling and withdrawal losses)**	
	Ls+Lw	**1.87**		
Engineering Uncertainty Factor		1.2		
Uncontrolled Total Tank Losses		**2.24**	**lbs/yr each tank**	
		17.96	**lbs/yr all tanks**	
Control System ?	No	0	control fraction	
System type, etc.	NA, no controls are required on #2 fuel oil storage tanks or delivery systems			3
Controlled Total Tank Losses		**2.24**	**lbs/yr each tank**	
		17.96	**lbs/yr all tanks**	
		0.009	**TPY all tanks**	

Note 1 - paint factor reduced due to tanks being inside the bldg on the ground floor not subject to ambient sunlight exposure.

Note 2 - for conservativeness, thruput increase 43000 gal/yr/tank

Note 3 - these tanks are not exempt form BAAQMD permits per Reg 2 Rule 1, section 123.

Table AQ1-7 Fixed Roof Tank Emissions Estimates

Ref: AP-42, Section 7.1, 11/2006

indicates input

Standing Storage Losses			***Comments***	**Note**
Type of organic liquid:	#2 ULS Diesel			
Vapor molecular weight:	Mw	130	AP-42	
Vapor density, lbs/ft3:	Vd	0.00015243		
Liquid density, lbs/gal	Dl	7.05	AP-42	
TVP, psia @ 60F	Vp	0.0065	AP-42 (consistent with Ta below)	
~ Tank diameter, ft.	D	8.25	equivalent dimemnsion for 4000 gals	
~ Tank height or length, ft.	H	10	equivalent dimemnsion for 4000 gals	
~ Tank capacity, gals	Tc	4000		
Avg vapor space height, ft.	Hv	2	annual avg value based on use versus tank refills	
Vapor space volume, ft3	Vv	106.91		
Total tank volume, ft3	Tv	535	Based on actual tank dimensions	
Avg Annual Temp, F	Ta	56.6	API Bulletin 2517, for SFO Airport	
Avg diurnal temp change, F	Tc	13.1	Avg max minus avg min.	
Paint factor	Pf	0.17	AP-42, Table 7.1-6, solar absorbance value	1
Product factor	Pd	1	Crude = 0.75, all others = 1	
Turnover factor	Kn	1	If turnover <36/year, the factor = 1. If >36 then calculate Kn. Per AP-42.	
Annual throughput, gals/yr	At	3000		
Vapor space expansion factor	Ke	0.04	AP-42, default value	
Vapor saturation factor	Ks	0.9993		
# of similar tanks		4	equals 1 equivalent tank per engine	2
Standing Loss	**Ls**	**0.24**	**lbs/yr (breathing and standing losses)**	
Working Losses				
Vapor molecular weight:	Mw	130		
Vapor pressure, psia @ 70F	Vp	0.0065		
Throughput, bbl/yr	Q	71.4		
Turnover factor	Kn	1		
Working loss product factor	Kp	1		
Working Loss	**Lw**	**0.06**	**lbs/yr (tank filling and withdrawal losses)**	
	Ls+Lw	**0.30**		
Engineering Uncertainty Factor		1.2		
Uncontrolled Total Tank Losses		**0.36**	**lbs/yr each tank**	
		1.43	**lbs/yr all tanks**	
Control System ?	No	0	control fraction	
System type, etc.	NA, no controls are required on #2 fuel oil storage tanks or delivery systems			3
Controlled Total Tank Losses		**0.36**	**lbs/yr each tank**	
		1.43	**lbs/yr all tanks**	
		0.001	**TPY all tanks**	

Note 1 - paint factor for new tanks, painted white, etc.

Note 2 - for conservativeness, annual thruput increased from 2825 to 3000 gal/yr

Note 3 - these tanks are exempt form BAAQMD permits per Reg 2 Rule 1, section 123.

Table AQ1-8 Emissions Estimates for Emergency Standby Generators - OVERLAP ANALYSIS

Engine Mfg:	**Caterpillar**	# of Units:	16		Max # of Engines Tested per Day:	8		# Redundant Engines:	0						
Model #:	**C175-16**				*(engines are not tested concurrently)*			Emer Ops Engines:	16						
Fuel:	ULSD	**Engine Data**												***METRIC UNITs***	
											Stk Flow,	**Stack Vel,**		**Stk Temp,**	
Fuel S, %wt:	0.0015	**BHP**	**kWe**	**Load %**	**RPM**	**Fuel, gph**	**Stk Ht, ft**	**Stk Diam, in**	**Stk Temp, F**	**mmbtu/hr**	**ACFM**	**f/s**	**Stk Diam, m**	**Kelvins**	**Stk Vel, m/s**
Fuel wt, lb/gal:	7.05	4376	3100	100	1800	209	135	28	890.4	29.05	25320.3	98.6902	0.7112	750.04	30.0808
Btu/gal:	139000														
Lbs S/1000 gal:	0.10575														
Lbs SO2/1000 gal:	0.2115	(use 0.005 g/bhp-hr as default SO2 factor for all loads)													
EPA Tier:	4														
Control System:	SCR and Oxidation Catalyst + DPF to Meet T4														
Turbocharged:	Yes								Stack Exit Area (sq.ft) =	4.276057					
Aftercooled:	Yes														

	Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
Scenarios	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.02	0.02	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.50	2.60	0.18	0.005	0.02	0.02	163.052
Weighted EF Input and Calculation Data							
0.25 hr Uncontrolled , using EPA T2 EFs, 100% Load, w/DPF	4.5	2.6	0.3				
0.75 hr Controlled, using Tier 4 EFs, 100% Load, w/DPF	0.5	2.6	0.14				

	Controlled Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.02	0.02	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.50	2.60	0.18	0.005	0.02	0.02	163.052

Scenario 1: **Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load**

Redundant engines do NOT operate during emergency operations.

Max Hourly Runtime: 1
Max Daily Runtime: 24
Max Annual Runtime: 100

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.824	25.083	1.351	0.048	0.193	0.193	na
lbs/day	115.770	602.003	32.416	1.158	4.631	4.631	na
TPY	0.241	1.254	0.068	0.002	0.010	0.010	236.8

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	77.18	401.34	21.61	0.77	3.09	3.09	na
lbs/day	1852.32	9632.04	518.65	18.52	74.09	74.09	na
TPY	3.86	20.07	1.08	0.039	0.154	0.154	3789.46

Scenario 2: **Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load**

Max Hourly Runtime: 1
Max Daily Runtime: 1
Max Annual Runtime: 50

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	14.471	25.083	1.737	0.048	0.193	0.193	na
lbs/day	14.471	25.083	1.737	0.048	0.193	0.193	na
TPY	0.362	0.627	0.043	0.001	0.005	0.005	118.4

8 Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	14.471	25.083	1.737	0.048	0.193	0.193	na
lbs/day	115.770	200.668	13.892	0.386	1.544	1.544	na

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
TPY	5.79	10.03	0.69	0.019	0.077	0.077	1894.73

C175-16 BAAQMD 150 Hrs/Yr Emissions Totals, TPY:	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
	9.647	30.100	1.775	0.058	0.232	0.232	5684.2

Table AQ1-9 Emissions Estimates for Emergency Standby Generators - OVERLAP ANALYSIS

Engine Mfg:	**Caterpillar**	# of Units:	2		Max # of Engines Tested per Day:		1		# Redundant Engines:		0				
Model #:	**C27**				*(engines are not tested concurrently)*				Emer Ops Engines:		2				
Fuel:	ULSD	**Engine Data**												***METRIC UNITs***	
											Stk Flow,	**Stack Vel,**		**Stk Temp,**	
Fuel S, %wt:	0.0015	**BHP**	**kWe**	**Load %**	**RPM**	**Fuel, gph**	**Stk Ht, ft**	**Stk Diam, in**	**Stk Temp, F**	**mmbtu/hr**	**ACFM**	**f/s**	**Stk Diam, m**	**Kelvins**	**Stk Vel, m/s**
Fuel wt, lb/gal:	7.05	1214	800	100	1800	56.5	Note	18	952.5	7.85	6011.7	56.6988	0.4572	784.54	17.2818
Btu/gal:	139000														
Lbs S/1000 gal:	0.10575														
Lbs SO2/1000 gal:	0.2115	(use 0.005 g/bhp-hr as default SO2 factor for all loads)													
EPA Tier:	4														
Control System:	SCR and Oxidation Catalyst + DPF to Meet T4														
Turbocharged:	Yes								Stack Exit Area (sq.ft) =	1.767146					
Aftercooled:	Yes														

	Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
Scenarios	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.02	0.02	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.50	2.60	0.18	0.005	0.02	0.02	163.052
Weighted EF Input and Calculation Data							
0.25 hr Uncontrolled , using EPA T2 EFs, 100% Load, w/DPF	4.5	2.6	0.3				163.052
0.75 hr Controlled, using Tier 4 EFs, 100% Load, w/DPF	0.5	2.6	0.14				163.052

	Controlled Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.500	2.600	0.140	0.005	0.020	0.020	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.50	2.60	0.18	0.005	0.020	0.020	163.052

Scenario 1: **Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load**

Max Hourly Runtime: 1
Max Daily Runtime: 24
Max Annual Runtime: 100

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	1.338	6.959	0.375	0.013	0.054	0.054	na
lbs/day	32.117	167.009	8.993	0.321	1.285	1.285	na
TPY	0.067	0.348	0.019	0.001	0.003	0.003	64.0

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	2.68	13.92	0.75	0.03	0.11	0.11	na
lbs/day	64.23	334.02	17.99	0.64	2.57	2.57	na
TPY	0.13	0.70	0.04	0.001	0.005	0.005	128.05

Scenario 2: **Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load**

Max Hourly Runtime: 1
Max Daily Runtime: 1
Max Annual Runtime: 50

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.015	6.959	0.482	0.013	0.054	0.054	na
lbs/day	4.015	6.959	0.482	0.013	0.054	0.054	na
TPY	0.100	0.174	0.012	0.0003	0.001	0.001	32.0

1 Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.015	6.959	0.482	0.013	0.054	0.054	na
lbs/day	4.015	6.959	0.482	0.013	0.054	0.054	na

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
TPY	0.20	0.35	0.02	0.001	0.003	0.003	64.03

C27 BAAQMD 150 Hrs/Yr Emissions Totals, TPY:	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
	0.335	1.044	0.062	0.0020	0.008	0.008	192.1

Appendix AQ-2

Equipment Brochures and Specifications

PERFORMANCE DATA[DM8455]

February 10, 2022

Performance Number: DM8455 **Change Level: 14**

SALES MODEL:	C175-16	**COMBUSTION:**	DIRECT INJECTION
BRAND:	CAT	**ENGINE SPEED (RPM):**	1,800
MACHINE SALES MODEL:		**HERTZ:**	60
ENGINE POWER (BHP):	4,376	**ASPIRATION:**	TA
GEN POWER W/O FAN (EKW):	3,100.0	**AFTERCOOLER TYPE:**	SCAC
COMPRESSION RATIO:	15.3	**AFTERCOOLER CIRCUIT TYPE:**	JW+OC+1AC, 2AC
RATING LEVEL:	STANDBY	**AFTERCOOLER TEMP (F):**	115
PUMP QUANTITY:	2	**JACKET WATER TEMP (F):**	210.2
FUEL TYPE:	DIESEL	**TURBO CONFIGURATION:**	PARALLEL
MANIFOLD TYPE:	DRY	**TURBO QUANTITY:**	4
GOVERNOR TYPE:	ADEM4	**TURBOCHARGER MODEL:**	GTB6251BN-48T-1.38
ELECTRONICS TYPE:	ADEM4	**CERTIFICATION YEAR:**	2008
CAMSHAFT TYPE:	STANDARD	**CRANKCASE BLOWBY RATE (FT3/HR):**	2,436.4
IGNITION TYPE:	CI	**FUEL RATE (RATED RPM) NO LOAD (GAL/HR):**	15.5
INJECTOR TYPE:	CR	**PISTON SPD @ RATED ENG SPD (FT/MIN):**	2,598.4
FUEL INJECTOR:	4439455		
REF EXH STACK DIAMETER (IN):	14		

INDUSTRY	SUBINDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET
OIL AND GAS	LAND PRODUCTION	PACKAGED GENSET

General Performance Data

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	ISO BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	ISO VOL FUEL CONSUMPTN (VFC)	ELEC SPEC FUEL CONSUMPTN (ESFC)	ISO ELEC SPEC FUEL CONSUMPTN (ESFC)
EKW	%	BHP	PSI	LB/BHP-HR	LB/BHP-HR	GAL/HR	GAL/HR	LB/EKW-HR	LB/EKW-HR
3,100.0	100	4,376	373	0.339	0.331	209.0	204.0	0.478	0.467
2,790.0	90	3,938	335	0.338	0.330	187.6	183.1	0.477	0.466
2,480.0	80	3,501	298	0.341	0.333	168.5	164.5	0.482	0.470
2,325.0	75	3,282	279	0.347	0.338	160.4	156.6	0.489	0.478
2,170.0	70	3,063	261	0.355	0.346	153.2	149.6	0.501	0.489
1,860.0	60	2,626	224	0.376	0.368	139.4	136.0	0.531	0.519
1,550.0	50	2,188	186	0.402	0.393	124.1	121.1	0.568	0.554
1,240.0	40	1,750	149	0.424	0.414	104.6	102.1	0.599	0.584
930.0	30	1,313	112	0.448	0.438	83.0	81.0	0.633	0.618
775.0	25	1,094	93	0.463	0.452	71.4	69.7	0.653	0.638
620.0	20	875	75	0.481	0.470	59.4	58.0	0.680	0.663
310.0	10	438	37	0.551	0.538	34.0	33.2	0.778	0.760

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
EKW	%	BHP	IN-HG	DEG F	DEG F	IN-HG	DEG F	IN-HG	DEG F
3,100.0	100	4,376	90.3	131.1	1,225.5	63.4	890.4	91	447.1
2,790.0	90	3,938	80.1	129.4	1,188.6	55.5	877.6	81	409.8
2,480.0	80	3,501	71.6	128.1	1,158.3	49.1	868.0	73	380.1
2,325.0	75	3,282	68.5	127.7	1,147.4	46.8	865.1	70	370.1
2,170.0	70	3,063	66.2	127.5	1,139.4	45.1	863.6	68	363.4
1,860.0	60	2,626	61.6	127.2	1,123.9	42.1	860.9	64	350.8
1,550.0	50	2,188	54.8	126.7	1,104.1	38.0	855.9	57	332.0
1,240.0	40	1,750	42.8	125.4	1,072.5	30.6	844.6	47	296.3
930.0	30	1,313	30.8	124.0	1,023.2	22.6	829.2	35	251.2
775.0	25	1,094	24.8	123.3	984.4	18.6	812.8	28	225.1
620.0	20	875	18.9	122.8	892.3	14.9	749.2	22	197.3
310.0	10	438	6.9	121.7	643.1	7.8	569.8	9	135.2

General Performance Data (Continued)

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)

PERFORMANCE DATA[DM8455]

February 10, 2022

EKW	%	BHP	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
3,100.0	100	4,376	9,674.6	25,320.3	42,304.4	43,785.9	9,221.5	8,576.0
2,790.0	90	3,938	8,834.8	22,758.0	38,384.4	39,715.1	8,367.4	7,787.1
2,480.0	80	3,501	8,133.6	20,653.4	35,133.9	36,329.8	7,648.7	7,127.4
2,325.0	75	3,282	7,873.5	19,883.5	33,933.2	35,071.5	7,379.4	6,882.8
2,170.0	70	3,063	7,674.4	19,303.2	33,017.6	34,104.9	7,172.3	6,697.1
1,860.0	60	2,626	7,287.7	18,220.5	31,272.8	32,261.2	6,783.7	6,349.9
1,550.0	50	2,188	6,739.4	16,826.5	28,846.8	29,726.1	6,288.4	5,901.2
1,240.0	40	1,750	5,792.8	14,535.8	24,673.2	25,413.7	5,479.6	5,153.6
930.0	30	1,313	4,845.5	11,851.1	20,542.1	21,129.9	4,521.1	4,261.0
775.0	25	1,094	4,371.7	10,369.7	18,492.5	18,998.8	4,006.8	3,781.7
620.0	20	875	3,897.7	8,845.4	16,453.5	16,874.9	3,597.6	3,409.5
310.0	10	438	2,949.2	5,561.0	12,407.4	12,648.6	2,655.9	2,544.6

Heat Rejection Data

PUMP POWER IS INCLUDED IN HEAT REJECTION BALANCE, BUT IS NOT SHOWN.

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST RECOVERY TO 350F	FROM OIL COOLER	FROM 2ND STAGE AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
3,100.0	100	4,376	77,079	8,233	176,058	100,091	24,081	27,356	185,573	452,113	481,614
2,790.0	90	3,938	68,674	7,617	157,585	88,535	21,506	22,077	167,015	403,771	430,117
2,480.0	80	3,501	61,730	7,130	142,543	79,399	19,247	18,045	148,458	361,362	384,941
2,325.0	75	3,282	58,955	6,949	136,754	76,169	18,272	16,609	139,179	343,060	365,445
2,170.0	70	3,063	56,877	6,821	132,798	73,794	17,456	15,731	129,901	327,733	349,118
1,860.0	60	2,626	53,228	6,605	125,732	69,340	15,919	14,476	111,343	298,886	318,389
1,550.0	50	2,188	49,412	6,441	117,165	63,168	14,300	13,183	92,786	268,478	285,997
1,240.0	40	1,750	44,006	6,297	102,298	52,689	12,215	10,300	74,229	229,338	244,303
930.0	30	1,313	37,226	6,186	83,787	42,347	9,854	7,429	55,672	184,999	197,070
775.0	25	1,094	33,267	6,118	73,173	36,703	8,568	6,178	46,393	160,871	171,368
620.0	20	875	28,325	5,745	61,741	27,923	7,209	5,244	37,114	135,351	144,182
310.0	10	438	16,748	4,702	36,241	11,322	4,278	3,828	18,557	80,318	85,559

Sound Data

SOUND DATA REPRESENTATIVE OF NOISE PRODUCED BY THE "ENGINE ONLY"

EXHAUST:SOUND POWER(1/3 Octave Frequencies)

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	100 HZ	125 HZ	160 HZ	200 HZ	250 HZ	315 HZ	400 HZ	500 HZ	630 HZ	800 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,100.0	100	4,376	134.4	109.7	115.8	113.6	115.4	115.8	118.8	119.7	121.4	120.2	121.0
2,790.0	90	3,938	133.1	110.4	116.2	112.4	114.1	114.3	117.1	118.2	119.8	118.1	119.2
2,480.0	80	3,501	131.8	111.9	116.7	110.7	112.5	112.8	115.3	116.7	118.2	116.2	117.4
2,325.0	75	3,282	131.1	112.7	116.9	109.8	111.6	112.0	114.5	115.9	117.3	115.3	116.4
2,170.0	70	3,063	130.5	113.5	117.2	108.9	110.7	111.3	113.6	115.2	116.4	114.4	115.5
1,860.0	60	2,626	129.2	115.1	117.7	107.1	109.0	109.8	111.9	113.7	114.7	112.6	113.6
1,550.0	50	2,188	127.9	116.8	118.2	105.3	107.3	108.4	110.2	112.3	113.0	110.7	111.7
1,240.0	40	1,750	126.6	118.4	118.7	103.5	105.6	106.9	108.4	110.8	111.3	108.9	109.8
930.0	30	1,313	125.3	120.0	119.2	101.7	103.9	105.4	106.7	109.3	109.5	107.1	107.9
775.0	25	1,094	124.6	120.8	119.5	100.8	103.0	104.7	105.8	108.6	108.7	106.2	106.9
620.0	20	875	124.0	121.6	119.7	99.9	102.1	103.9	105.0	107.8	107.8	105.3	106.0
310.0	10	438	122.7	123.2	120.3	98.1	100.4	102.5	103.2	106.4	106.1	103.4	104.1

EXHAUST:SOUND POWER(1/3 Octave Frequencies)

GENSET POWER	PERCENT LOAD	ENGINE POWER	1000 HZ	1250 HZ	1600 HZ	2000 HZ	2500 HZ	3150 HZ	4000 HZ	5000 HZ	6300 HZ	8000 HZ	10000 HZ

PERFORMANCE DATA[DM8455]

February 10, 2022

WITHOUT FAN													
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,100.0	100	4,376	122.0	122.4	123.4	124.7	124.5	122.9	122.2	121.4	119.9	118.8	123.5
2,790.0	90	3,938	120.5	120.8	122.0	123.4	123.0	121.3	120.6	119.8	118.6	117.7	123.8
2,480.0	80	3,501	119.2	119.5	120.6	122.3	121.7	120.2	119.7	118.9	117.5	117.0	123.5
2,325.0	75	3,282	118.5	118.9	119.8	121.8	121.0	119.7	119.2	118.4	117.0	116.7	123.2
2,170.0	70	3,063	117.9	118.3	119.1	121.2	120.4	119.1	118.8	118.0	116.4	116.4	123.0
1,860.0	60	2,626	116.5	117.1	117.6	120.2	119.0	118.1	117.9	117.1	115.4	115.8	122.5
1,550.0	50	2,188	115.2	115.8	116.2	119.1	117.7	117.0	117.0	116.2	114.3	115.1	122.0
1,240.0	40	1,750	113.9	114.6	114.7	118.1	116.4	116.0	116.1	115.3	113.3	114.5	121.5
930.0	30	1,313	112.6	113.4	113.2	117.0	115.1	114.9	115.2	114.4	112.2	113.9	121.0
775.0	25	1,094	112.0	112.8	112.5	116.5	114.5	114.4	114.8	114.0	111.7	113.6	120.7
620.0	20	875	111.3	112.2	111.8	116.0	113.8	113.9	114.4	113.6	111.2	113.3	120.5
310.0	10	438	110.0	110.9	110.3	115.0	112.5	112.8	113.5	112.7	110.2	112.6	120.0

MECHANICAL:SOUND POWER(1/3 Octave Frequencies)

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	OVERALL SOUND	100 HZ	125 HZ	160 HZ	200 HZ	250 HZ	315 HZ	400 HZ	500 HZ	630 HZ	800 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,100.0	100	4,376	125.9	89.8	105.6	98.3	100.7	104.3	108.4	111.5	113.2	112.5	114.1
2,790.0	90	3,938	125.8	89.3	105.5	97.9	100.9	103.2	108.7	111.1	112.6	112.2	113.7
2,480.0	80	3,501	126.0	88.9	104.9	97.8	99.6	102.3	107.8	111.0	111.6	111.8	112.9
2,325.0	75	3,282	126.1	88.7	104.5	97.8	98.8	101.9	107.3	111.0	111.1	111.7	112.5
2,170.0	70	3,063	126.3	88.5	104.2	97.8	98.0	101.5	106.8	111.0	110.6	111.5	112.0
1,860.0	60	2,626	126.5	88.0	103.5	97.8	96.5	100.7	105.8	111.0	109.5	111.1	111.2
1,550.0	50	2,188	126.8	87.6	102.8	97.8	95.0	99.9	104.8	111.0	108.5	110.8	110.3
1,240.0	40	1,750	127.0	87.2	102.2	97.7	93.5	99.2	103.8	110.9	107.5	110.5	109.5
930.0	30	1,313	127.3	86.7	101.5	97.7	92.0	98.4	102.8	110.9	106.5	110.1	108.6
775.0	25	1,094	127.4	86.5	101.1	97.7	91.2	98.0	102.3	110.9	105.9	109.9	108.2
620.0	20	875	127.5	86.3	100.8	97.7	90.5	97.6	101.8	110.9	105.4	109.8	107.8
310.0	10	438	127.8	85.9	100.1	97.7	89.0	96.8	100.8	110.9	104.4	109.4	106.9

MECHANICAL:SOUND POWER(1/3 Octave Frequencies)

GENSET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	1000 HZ	1250 HZ	1600 HZ	2000 HZ	2500 HZ	3150 HZ	4000 HZ	5000 HZ	6300 HZ	8000 HZ	10000 HZ
EKW	%	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
3,100.0	100	4,376	112.7	113.9	114.6	115.3	114.9	112.7	110.8	111.8	114.2	113.3	117.9
2,790.0	90	3,938	112.5	113.7	114.4	114.9	114.4	112.2	110.3	111.0	113.6	112.8	119.5
2,480.0	80	3,501	112.1	113.1	113.7	114.3	114.2	111.8	109.9	110.6	113.1	112.6	121.8
2,325.0	75	3,282	111.9	112.8	113.3	113.9	114.1	111.6	109.8	110.4	112.9	112.5	123.1
2,170.0	70	3,063	111.7	112.5	112.8	113.6	114.0	111.4	109.6	110.3	112.6	112.4	124.3
1,860.0	60	2,626	111.2	111.9	112.0	112.9	113.8	110.9	109.2	109.9	112.2	112.2	126.8
1,550.0	50	2,188	110.8	111.3	111.1	112.2	113.7	110.5	108.9	109.6	111.8	112.1	129.3
1,240.0	40	1,750	110.4	110.7	110.3	111.5	113.5	110.1	108.5	109.2	111.3	111.9	131.8
930.0	30	1,313	110.0	110.1	109.4	110.8	113.3	109.6	108.2	108.8	110.9	111.7	134.2
775.0	25	1,094	109.7	109.8	109.0	110.5	113.2	109.4	108.0	108.7	110.7	111.6	135.5
620.0	20	875	109.5	109.5	108.6	110.2	113.1	109.2	107.8	108.5	110.5	111.5	136.7
310.0	10	438	109.1	108.9	107.8	109.5	112.9	108.8	107.5	108.1	110.0	111.3	139.2

Emissions Data

DIESEL

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITHOUT FAN	EKW	3,100.0	2,790.0	2,325.0	1,550.0	775.0	310.0
PERCENT LOAD	%	100	90	75	50	25	10
ENGINE POWER	BHP	4,376	3,938	3,282	2,188	1,094	438
TOTAL NOX (AS	G/HR	26,403	22,877	17,130	7,010	2,936	2,988

PERFORMANCE DATA[DM8455]

February 10, 2022

NO2)								
TOTAL CO		G/HR	1,524	1,842	1,866	947	1,012	1,015
TOTAL HC		G/HR	179	143	147	279	284	248
TOTAL CO2		KG/HR	2,206	1,942	1,619	1,240	696	327
PART MATTER		G/HR	116.1	122.8	119.3	86.1	96.8	89.5
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	3,107.8	3,068.3	2,704.7	1,443.3	1,095.5	2,281.7
TOTAL CO	(CORR 5% O2)	MG/NM3	157.9	222.1	252.1	164.2	321.9	666.1
TOTAL HC	(CORR 5% O2)	MG/NM3	15.2	13.1	17.6	43.3	78.1	141.4
PART MATTER	(CORR 5% O2)	MG/NM3	10.3	12.5	14.0	13.4	27.5	54.3
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	1,153.2	1,138.5	1,003.6	535.6	406.5	846.7
TOTAL CO	(CORR 15% O2)	MG/NM3	58.6	82.4	93.6	60.9	119.5	247.2
TOTAL HC	(CORR 15% O2)	MG/NM3	5.7	4.8	6.5	16.1	29.0	52.5
PART MATTER	(CORR 15% O2)	MG/NM3	3.8	4.6	5.2	5.0	10.2	20.1
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,514	1,494	1,317	703	534	1,111
TOTAL CO	(CORR 5% O2)	PPM	126	178	202	131	258	533
TOTAL HC	(CORR 5% O2)	PPM	28	24	33	81	146	264
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	562	555	489	261	198	412
TOTAL CO	(CORR 15% O2)	PPM	47	66	75	49	96	198
TOTAL HC	(CORR 15% O2)	PPM	11	9	12	30	54	98
TOTAL NOX (AS NO2)		G/HP-HR	6.05	5.82	5.23	3.21	2.68	6.82
TOTAL CO		G/HP-HR	0.35	0.47	0.57	0.43	0.92	2.32
TOTAL HC		G/HP-HR	0.04	0.04	0.04	0.13	0.26	0.57
PART MATTER		G/HP-HR	0.03	0.03	0.04	0.04	0.09	0.20
TOTAL NOX (AS NO2)		G/KW-HR	8.23	7.92	7.11	4.36	3.65	9.27
TOTAL CO		G/KW-HR	0.48	0.64	0.77	0.59	1.26	3.15
TOTAL HC		G/KW-HR	0.06	0.05	0.06	0.17	0.35	0.77
PART MATTER		G/KW-HR	0.04	0.04	0.05	0.05	0.12	0.28
TOTAL NOX (AS NO2)		LB/HR	58.21	50.43	37.76	15.45	6.47	6.59
TOTAL CO		LB/HR	3.36	4.06	4.11	2.09	2.23	2.24
TOTAL HC		LB/HR	0.39	0.31	0.32	0.62	0.63	0.55
TOTAL CO2		LB/HR	4,863	4,281	3,570	2,735	1,535	720
PART MATTER		LB/HR	0.26	0.27	0.26	0.19	0.21	0.20
OXYGEN IN EXH		%	9.6	9.8	10.3	11.7	12.9	15.2
DRY SMOKE OPACITY		%	0.3	0.7	0.7	0.0	0.7	2.4
BOSCH SMOKE NUMBER			0.70	0.73	0.74	0.64	0.74	0.90

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER WITHOUT FAN		**EKW**	**3,100.0**	**2,790.0**	**2,325.0**	**1,550.0**	**775.0**	**310.0**
PERCENT LOAD		**%**	**100**	**90**	**75**	**50**	**25**	**10**
ENGINE POWER		BHP	4,376	3,938	3,282	2,188	1,094	438
TOTAL NOX (AS NO2)		G/HR	31,683	27,452	20,556	8,412	3,523	3,586
TOTAL CO		G/HR	2,743	3,316	3,359	1,704	1,822	1,827
TOTAL HC		G/HR	238	190	195	372	378	330
PART MATTER		G/HR	162.5	171.9	167.1	120.5	135.6	125.3
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	3,729.4	3,681.9	3,245.7	1,732.0	1,314.5	2,738.0
TOTAL CO	(CORR 5% O2)	MG/NM3	284.3	399.8	453.8	295.6	579.5	1,199.1
TOTAL HC	(CORR 5% O2)	MG/NM3	20.3	17.4	23.4	57.6	103.9	188.1
PART MATTER	(CORR 5% O2)	MG/NM3	14.4	17.5	19.7	18.8	38.6	76.0
TOTAL NOX (AS NO2)	(CORR 15% O2)	MG/NM3	1,383.9	1,366.3	1,204.4	642.7	487.8	1,016.0
TOTAL CO	(CORR 15% O2)	MG/NM3	105.5	148.3	168.4	109.7	215.0	444.9
TOTAL HC	(CORR 15% O2)	MG/NM3	7.5	6.4	8.7	21.4	38.5	69.8
PART MATTER	(CORR 15% O2)	MG/NM3	5.3	6.5	7.3	7.0	14.3	28.2
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,817	1,793	1,581	844	640	1,334
TOTAL CO	(CORR 5% O2)	PPM	227	320	363	236	464	959
TOTAL HC	(CORR 5% O2)	PPM	38	32	44	108	194	351
TOTAL NOX (AS NO2)	(CORR 15% O2)	PPM	674	665	587	313	238	495
TOTAL CO	(CORR 15% O2)	PPM	84	119	135	88	172	356
TOTAL HC	(CORR 15% O2)	PPM	14	12	16	40	72	130
TOTAL NOX (AS NO2)		G/HP-HR	7.26	6.99	6.28	3.85	3.22	8.18
TOTAL CO		G/HP-HR	0.63	0.84	1.03	0.78	1.66	4.17

TOTAL HC	G/HP-HR	0.05	0.05	0.06	0.17	0.35	0.75
PART MATTER	G/HP-HR	0.04	0.04	0.05	0.06	0.12	0.29
TOTAL NOX (AS NO2)	G/KW-HR	9.87	9.50	8.53	5.23	4.38	11.13
TOTAL CO	G/KW-HR	0.86	1.15	1.39	1.06	2.26	5.67
TOTAL HC	G/KW-HR	0.07	0.07	0.08	0.23	0.47	1.03
PART MATTER	G/KW-HR	0.05	0.06	0.07	0.07	0.17	0.39
TOTAL NOX (AS NO2)	LB/HR	69.85	60.52	45.32	18.54	7.77	7.91
TOTAL CO	LB/HR	6.05	7.31	7.41	3.76	4.02	4.03
TOTAL HC	LB/HR	0.52	0.42	0.43	0.82	0.83	0.73
PART MATTER	LB/HR	0.36	0.38	0.37	0.27	0.30	0.28

Regulatory Information

EPA TIER 2		**2006 - 2010**		
GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 89 SUBPART D AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE NON-ROAD REGULATIONS.				
Locality	**Agency**	**Regulation**	**Tier/Stage**	**Max Limits - G/BKW - HR**
U.S. (INCL CALIF)	EPA	NON-ROAD	TIER 2	CO: 3.5 NOx + HC: 6.4 PM: 0.20

EPA EMERGENCY STATIONARY		**2011 - ----**		
GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 60 SUBPART IIII AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE EMERGENCY STATIONARY REGULATIONS.				
Locality	**Agency**	**Regulation**	**Tier/Stage**	**Max Limits - G/BKW - HR**
U.S. (INCL CALIF)	EPA	STATIONARY	EMERGENCY STATIONARY	CO: 3.5 NOx + HC: 6.4 PM: 0.20

Altitude Derate Data

ALTITUDE DERATE DATA IS BASED ON THE ASSUMPTION OF A 20 DEGREES CELSIUS(36 DEGREES FAHRENHEIT) DIFFERENCE BETWEEN AMBIENT OPERATING TEMPERATURE AND ENGINE INLET SCAC TEMPERATURE. AMBIENT OPERATING TEMPERATURE IS DEFINED AS THE AIR TEMPERATURE MEASURED AT THE TURBOCHARGER COMPRESSOR INLET.

STANDARD

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**	**130**	**140**	**NORMAL**
ALTITUDE (FT)													
0	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376
1,000	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376
2,000	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,355	4,376
3,000	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,376	4,309	4,216	4,376
4,000	4,345	4,345	4,345	4,345	4,345	4,345	4,344	4,344	4,343	4,280	4,190	4,100	4,345
5,000	4,174	4,174	4,174	4,174	4,174	4,174	4,173	4,172	4,170	4,130	4,073	4,017	4,174
6,000	4,015	4,015	4,015	4,015	4,015	4,015	4,013	4,011	4,008	3,988	3,960	3,933	4,015
7,000	3,868	3,868	3,868	3,868	3,868	3,868	3,866	3,863	3,859	3,853	3,847	3,840	3,868
8,000	3,751	3,751	3,751	3,751	3,751	3,751	3,749	3,745	3,742	3,736	3,729	3,723	3,751
9,000	3,634	3,634	3,634	3,634	3,634	3,634	3,633	3,628	3,624	3,618	3,612	3,606	3,634
10,000	3,523	3,523	3,523	3,523	3,523	3,523	3,521	3,517	3,512	3,506	3,500	3,495	3,523
11,000	3,417	3,417	3,417	3,417	3,417	3,417	3,415	3,411	3,406	3,400	3,394	3,388	3,417
12,000	3,312	3,312	3,312	3,312	3,312	3,312	3,310	3,304	3,299	3,294	3,288	3,282	3,312
13,000	3,206	3,206	3,206	3,206	3,206	3,206	3,204	3,198	3,193	3,188	3,182	3,176	3,206
14,000	3,100	3,100	3,100	3,100	3,100	3,100	3,098	3,093	3,088	3,083	3,079	3,074	3,100
15,000	2,993	2,993	2,993	2,993	2,993	2,993	2,991	2,988	2,984	2,981	2,977	2,974	2,993

Cross Reference

Test Spec	**Setting**	**Engine Arrangement**	**Engineering Model**	**Engineering Model Version**	**Start Effective Serial Number**	**End Effective Serial Number**
0K9167	LL6027	3079788	GS265	-	WYB00620	
0K9167	LL6027	5683569	PG323	-	TB800100	
0K9167	LL6027	5717349	PG323	-	TB800100	

Performance Parameter Reference

Parameters Reference:DM9600-14

PERFORMANCE DEFINITIONS

PERFORMANCE DEFINITIONS DM9600
APPLICATION:
Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.
PERFORMANCE PARAMETER TOLERANCE FACTORS:
Power +/- 3%
Torque +/- 3%
Exhaust stack temperature +/- 8%
Inlet airflow +/- 5%
Intake manifold pressure-gage +/- 10%
Exhaust flow +/- 6%
Specific fuel consumption +/- 3%
Fuel rate +/- 5%
Specific DEF consumption +/- 3%
DEF rate +/- 5%
Heat rejection +/- 5%
Heat rejection exhaust only +/- 10%
Heat rejection CEM only +/- 10%
Heat Rejection values based on using treated water.
Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.
On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.
On 3500 and C175 engines, at speeds below Peak Torque these values are provided for reference only, and may not meet the tolerance listed.
These values do not apply to C280/3600. For these models, see the tolerances listed below.
C280/3600 HEAT REJECTION TOLERANCE FACTORS:
Heat rejection +/- 10%
Heat rejection to Atmosphere +/- 50%
Heat rejection to Lube Oil +/- 20%
Heat rejection to Aftercooler +/- 5%
TEST CELL TRANSDUCER TOLERANCE FACTORS:
Torque +/- 0.5%
Speed +/- 0.2%
Fuel flow +/- 1.0%
Temperature +/- 2.0 C degrees
Intake manifold pressure +/- 0.1 kPa
OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE AIR AND FUEL CONDITIONS.
REFERENCE ATMOSPHERIC INLET AIR
FOR 3500 ENGINES AND SMALLER
SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.
FOR 3600 ENGINES
Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JANJAN2014 reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.
MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE
Location for air temperature measurement air cleaner inlet at stabilized operating conditions.
REFERENCE EXHAUST STACK DIAMETER
The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.
REFERENCE FUEL

PERFORMANCE DATA[DM8455]

DIESEL
Reference fuel is #2 distillate diesel with a 35API gravity;
A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at
15 deg C (59 deg F), where the density is
850 G/Liter (7.0936 Lbs/Gal).
GAS
Reference natural gas fuel has a lower heating value of 33.74 KJ/L
(905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500
BTU/CU FT) lower heating value gas. Propane ratings are based on
87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.
ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS
EXTERNAL AUXILIARY LOAD
Engine corrected gross output includes the power required to drive
standard equipment; lube oil, scavenge lube oil, fuel transfer,
common rail fuel, separate circuit aftercooler and jacket water
pumps. Engine net power available for the external (flywheel)
load is calculated by subtracting the sum of auxiliary load from
the corrected gross flywheel out put power. Typical auxiliary
loads are radiator cooling fans, hydraulic pumps, air compressors
and battery charging alternators. For Tier 4 ratings additional
Parasitic losses would also include Intake, and Exhaust
Restrictions.
ALTITUDE CAPABILITY
Altitude capability is the maximum altitude above sea level at
standard temperature and standard pressure at which the engine
could develop full rated output power on the current performance
data set.
Standard temperature values versus altitude could be seen on
TM2001.
When viewing the altitude capability chart the ambient temperature
is the inlet air temp at the compressor inlet.
Engines with ADEM MEUI and HEUI fuel systems operating at
conditions above the defined altitude capability derate for
atmospheric pressure and temperature conditions outside the values
defined, see TM2001.
Mechanical governor controlled unit injector engines require a
setting change for operation at conditions above the altitude
defined on the engine performance sheet. See your Caterpillar
technical representative for non standard ratings.
REGULATIONS AND PRODUCT COMPLIANCE
TMI Emissions information is presented at 'nominal' and 'Potential
Site Variation' values for standard ratings. No tolerances are
applied to the emissions data. These values are subject to change
at any time. The controlling federal and local emission
requirements need to be verified by your Caterpillar technical
representative.
Customer's may have special emission site requirements that need
to be verified by the Caterpillar Product Group engineer.
EMISSION CYCLE LIMITS:
Cycle emissions Max Limits apply to cycle-weighted averages only.
Emissions at individual load points may exceed the cycle-weighted
limit.
WET & DRY EXHAUST/EMISSIONS DESCRIPTION:
Wet - Total exhaust flow or concentration of total exhaust flow
Dry - Total exhaust flow minus water vapor or concentration of exhaust
flow with water vapor excluded
EMISSIONS DEFINITIONS:
Emissions : DM1176
EMISSION CYCLE DEFINITIONS
1. For constant-speed marine engines for ship main propulsion,
including,diesel-electric drive, test cycle E2 shall be applied,
for controllable-pitch propeller sets
test cycle E2 shall be applied.
2. For propeller-law-operated main and propeller-law-operated
auxiliary engines the test cycle E3 shall be applied.
3. For constant-speed auxiliary engines test cycle D2 shall be
applied.
4. For variable-speed, variable-load auxiliary engines, not
included above, test cycle C1 shall be applied.
HEAT REJECTION DEFINITIONS:
Diesel Circuit Type and HHV Balance : DM9500
HIGH DISPLACEMENT (HD) DEFINITIONS:
3500: EM1500
RATING DEFINITIONS:
Agriculture : TM6008
Fire Pump : TM6009
Generator Set : TM6035
Generator (Gas) : TM6041
Industrial Diesel : TM6010
Industrial (Gas) : TM6040
Irrigation : TM5749
Locomotive : TM6037
Marine Auxiliary : TM6036
Marine Prop (Except 3600) : TM5747
Marine Prop (3600 only) : TM5748
MSHA : TM6042
Oil Field (Petroleum) : TM6011
Off-Highway Truck : TM6039

PERFORMANCE DATA[DM8455]

On-Highway Truck : TM6038
SOUND DEFINITIONS:
Sound Power : DM8702
Sound Pressure : TM7080
Date Released : 10/27/21

Product Specifications for C175-16 Tier 4 Final (60 Hz)

Generator Set Specifications

Minimum Rating	2500 ekW
Maximum Rating	3100 ekW
Emissions/Fuel Strategy	U.S. EPA Certified
Voltage	480 to 13800 Volts
Frequency	60 Hz
Speed	1800 rpm
Duty Cycle	Standby, Mission Critical, Prime, Continuous

Engine Specifications

Engine Model	C175-16 SCAC, V-16, 4-Stroke Water-Cooled Diesel
Bore	6.89 in
Stroke	8.66 in
Displacement	5155.88 in^3
Compression Ratio	16:07:01
Aspiration	Turbo Aftercooled
Fuel System	EUI
Governor Type	ADEM™ A4

PRODUCT SPECIFICATIONS FOR C27

Maximum Power	1150 HP
Maximum Torque	3876 lb-ft @ 1400 rpm
Rated Speed	1800-2100 rpm
Minimum Power	800 HP

Emissions	U.S. EPA Tier 2 Equivalent

Engine Configuration	V-12, 4-Stroke-Cycle Diesel
Bore	5.4 in
Stroke	6 in
Displacement	1649.5 in^3
Compression Ratio	16.5:1
Aspiration	Turbocharged Aftercooled (TA)
Combustion System	Direct Injection
Rotation from Flywheel End	Counterclockwise
Aftertreatment	-

Length	75.5 in

Width	57.6 in
Height	51.9 in
Weight - Net Dry - Basic Operating Engine Without Optional Attachments	6495 lb

C27 STANDARD EQUIPMENT

AIR INLET SYSTEM

Twin Turbocharged Aftercooled
Air-to-Air Aftercooled

CONTROL SYSTEM

Electronic governing, PTO speed control
Programmable ratings
Automatic altitude compensation
Power compensation for fuel temperature
Programmable low and high idle and total engine limit
Electronic diagnostics and fault logging
Engine monitoring system SAE J1939 broadcast and control
ADEM™ A4 Electronic Control Unit (ECU)

COOLING SYSTEM

Thermostats and housing, vertical outlet
Jacket water pump, centrifugal
Water pump, inlet

EXHAUST SYSTEM

Exhaust manifold, dry
Optional exhaust outlet

FLYWHEELS AND FLYWHEEL HOUSING

SAE No. 1 flywheel housing

FUEL SYSTEM

MEUI injection
Fuel filter, secondary (2 micron)
ACERT™ Technology
Fuel transfer pump
Fuel priming pump

LUBE SYSTEM

Crankcase breather
Oil cooler
Oil filler
Lube oil filter
Front sump oil pan
Oil dipstick
Gear driven oil pump

GENERAL

Vibration damper
Lifting eyes
Cold start capability to -20° C (-4° F)
Paint: Caterpillar yellow, with optional colors available at request

safety POWER

clean essential energy

ecoCUBE®

Global Emissions Compliance

ecoCUBE® with SCR, DPF, DOC & Silencer

ecoCUBE® Simplifying Emissions Compliance

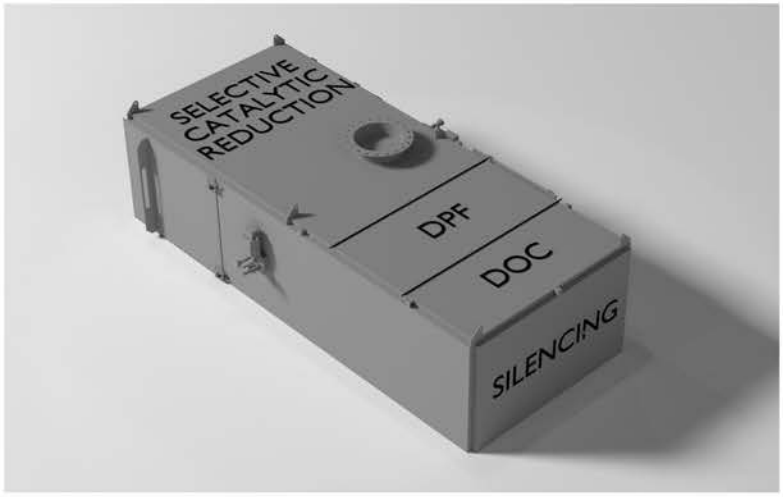
SCR and Silencing in one ecoCUBE®
If required add DOC, DPF to the same box

www.safetypowerinc.com

ecoCUBE® - a Much Simpler Approach

The ecoCUBE® Advantage

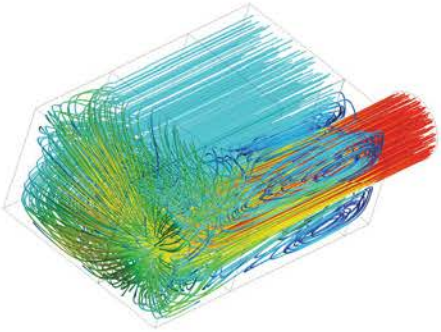
- Fully Compliant Tier 4f & Euro Stage IV Solution
- Up to 98% NO_x Reduction
- Optional DOC & DPF Integration
- Silencing up to 52 dBA Reduction
- Low Pressure Drop, Options from 6" WC
- Highly Customizable Inlet & Outlet locations
- Floor, Ceiling or Container Mounted Options
- Easy Addition to almost any Engine
- Ideal for Stationary, Marine and Non-Road Mobile Applications



Highly Optimized Design

The ecoCUBE® has been designed using Computational Fluid Dynamics (CFD) to ensure that performance is maximized and costs are minimized. This highly optimized design distributes exhaust gasses evenly over the catalyst surface creating an extremely high NO_x reduction with less catalyst.

The ecoCUBE® has a unique design that allows the integration of an optional Diesel Particulate Filter (DPF) and Diesel Oxidation Catalyst (DOC) in addition to the Selective Catalytic Reduction (SCR) unit. Silencing can also be added to the ecoCUBE®. All of these optional components are contained within the same geometry making it easy to allocate project space.



Versatile, Compact & Economical

The ecoCUBE® has customizable inlets and outlets. In addition the ecoCUBE® can be roof mounted, ceiling mounted or vertically mounted making it easier to integrate into your Data Center, Hospital or other installation.

If you have a specific space constraints please contact Safety Power, we will likely be able to accommodate your requirements.

The innovative design approach of the ecoCUBE® allows it to take less space than conventional designs.

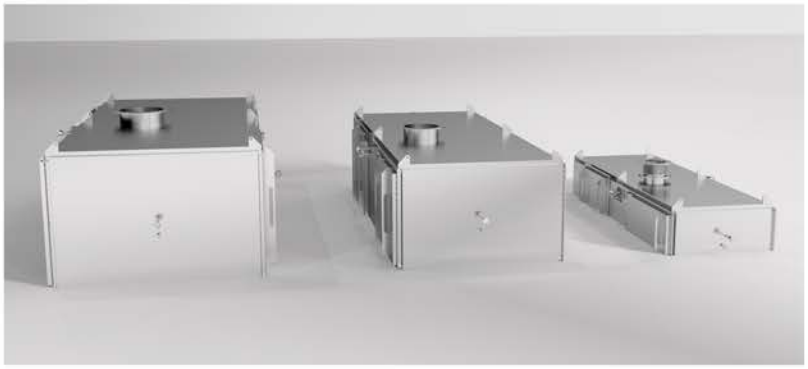
* Safety Power has been able to achieve NO_x reductions of up to 98% on a 2.5MW Tier 2 engine.

ecoCUBE® - an Advanced Design that Delivers Tier 4f Compliance

Meet the ecoCUBE® Family

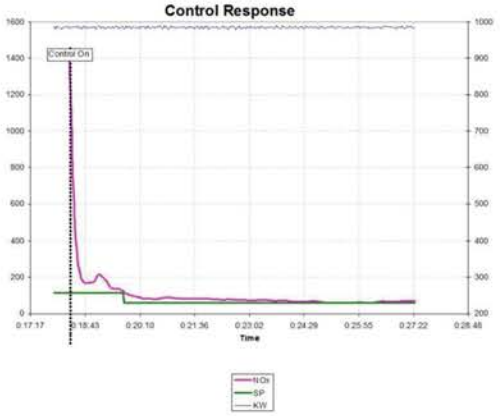
The design of the ecoCUBE® is highly scalable. The same optimized design works for engines ranging from 500 kW to 10 MW. This unique scalability provides a substantial cost reduction, as customization is avoided.

The ecoCUBE® family has a large installed base that has demonstrated reliability and 3rd party verified Tier 4f compliance.



Advanced Model Based Control with NO_X Sensor

The ecoCUBE® has a highly robust advanced model based predictive controller. This proprietary control algorithm accurately models the chemical reactions on the catalyst delivering industry leading response times. The graph on the right side demonstrates the effectiveness of the ecoCUBE® on a customer installation; NO_x levels after injection are reduced over 95%. The design uses two NO_x sensors with a patented gas extractor to ensure compliance and provide logged data for customers.

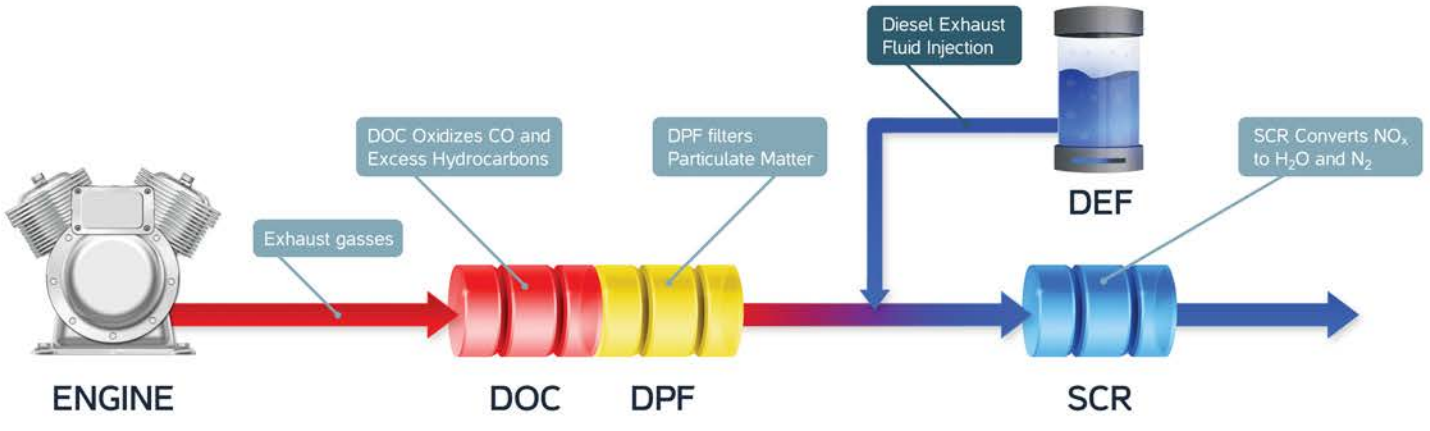


With an optional pre-heat system the ecoCUBE® SCR system can become active in less than 5 minutes.

ecoCUBE's® with the DPF module also have an innovative pressure relief valve system that does not require expensive active regeneration systems.

Selective Catalytic Reduction (SCR) and Diesel Emissions

The ecoCUBE® utilizes an SCR to achieve Tier 4f NO_x compliance. The SCR is a catalytic process that uses urea to transform NO_2 into harmless Nitrogen Gas (N_2) and water vapor (H_2O). The optional Diesel Particulate Filter (DPF) and Diesel Oxidation Catalyst (DOC) are used to remove Particulate Matter (PM), Carbon Monoxide (CO) and other excess Hydrocarbons; depending on the engine these modules may be required to achieve Tier 4f compliance.



ecoCUBE® with SCR, DPF, DOC & Silencer

Safety Power is the global innovator in emissions control for large scale diesel and natural gas engines.

The company manufactures the ecoCUBE® range of products that reduce NO_X, CO and Hydrocarbon emissions on engines from 500kW up to 10MW and beyond.

For more information please contact info@safetypowerinc.com

safety POWER

clean essential energy

Safety Power Inc.

5155 Spectrum Way, Unit 26
Mississauga, Ontario
L4W 5A1

1-800-657-1280
1-800-657-1280
info@safetypowerinc.com

www.safetypowerinc.com

Document revision #3.0

EcoCube Typical Specification for Tier 4 Final Diesel Emissions Reduction System

1. Provide a Diesel Emissions Reduction System (DERS) for each engine to reduce:
    a. NOx exhaust emissions of each engine to a maximum of 0.67 g/kwh (0.5 g/bhp-hr)
    b. PM (Particulate Matter) to 0.02 g/kwh (0.015 g/bhp-hr)
    c. CO (Carbon Monoxide) to 3.5 g/kwh (2.6 g/bhp-hr)
    d. NMHC (Non Methane HydroCarbons) to 0.19 g/kwh (0.14 g/bhp-hr)

2. The DERS shall be structured in a cube shape so that the mixing duct and SCR reactor are packaged within the cube. The DERS shall include an oxidation catalyst and Diesel Particulate Filter (DPF) upstream of the SCR catalyst to reduce VOC, CO and PM.

3. SCR system to include an optional method/means of silencing exhaust to the equivalent of a hospital grade silencer – to be specific there shall be a minimum noise attenuation of 35 dBA. The silencing method/means must be contained within the same physical housing as the SCR to minimize space and installation.

4. Under no circumstances should the DERS be placed downstream of a silencer with absorptive acoustical material. Any additional silencers should be placed downstream of the DERS.

5. Access to the Diesel Particulate Filters (DPF's) shall be via hinged doors. Maintenance access to the DPF's shall be from the clean (downstream) side. DPF's shall be passively regenerated using an upstream Diesel Oxidation Catalyst (DOC) to ensure effective regeneration.

6. The system shall be equipped with an internal relief valve system to provide protection in the event of an over-pressure around the Diesel Particulate Filters (DPF's) in the system.

7. The catalyst shall be guaranteed for a minimum of 8,000 run hours and shall be capable of long term extended operation from the 60%-100% engine load points.

8. Housing integrity: The housing shall be reinforced to withstand all normal conditions of pressure and temperature with reasonable allowance for excursions of pressure and temperature.

9. The SCR system shall utilize Closed Loop control with solid state NOx sensors both upstream and downstream of the SCR catalyst to provide NOx reduction performance throughout varying engine loads while minimizing ammonia slip. Solid state sensors shall be used to ensure fast response times and durability. In addition, the downstream NOx sensor shall be situated in a way that allows the sensor to analyze several sample points (minimum of 5) at different locations in the same plane normal to the exhaust flow.

10. All SCR electronic controls and urea injection equipment shall be housed in a single NEMA 12 panel no larger than 30" H by 30" W by 8.5" D. The control and urea injection panel will be equipped with an industrial grade urea injection pump system for maximum reliability and precise control. The control system shall provide a Modbus TCP/IP interface so that emissions data can be transferred to the customer's Building Automation System (BAS).

11. The system shall have the capability to provide remote monitoring and diagnostic capabilities through a built in Ethernet port and GSM modem. The remote monitoring capability shall provide the Vendor or facility owner with access to the system so that any alarms and associated trouble shooting can be done from a central location. The remote

monitoring system will provide real time data, and access to historical emissions data. It shall be possible to view the data as trend charts using a normal internet browser.

12. The system controller shall be industrial hardened and capable of operating from 0oF - 140oF. In addition, it shall have at least 256 MB of RAM and 1 GB of solid state storage available for historical logging. The controller also requires at least 1 GFLOPS of computational power/performance so that catalyst reaction kinetics can be accurately modeled in real time.

13. All sensors will be pre-terminated to a single junction box located on the SCR reactor for the purpose of easy wiring. Communication cables shall be used to transfer all sensor signals between this junction box and the SCR control panel.

14. Site air permit conditions may require that the worst case 60-minute average for NOx must be met when the engine is tested under full load. As a result, the Vendor shall quote an optional electric pre-heating system so that the SCR catalyst bed in the DERS is available within a maximum of 5 minutes after the engine is started under a full load test.

15. For worker safety while maintaining instruments or other components on enclosure mounted reactors, the Vendor shall provide an integrated Work Restraint System that allows up to 2 workers to attach Fall Restraint harnesses to the reactor. This Work Restraint System shall be capable of supporting a force of up to 4kN.

16. The SCR shall be designed to operate with commercially available Diesel Emissions Fluid "DEF" as reagent and shall not exceed the Vendor warranted DEF flow rate by more than 20% at 100% load. The dosing panel, tanks and lines with urea must be protected from freezing

17. The DERS shall be compliant with seismic Zone 2 standards. The reactor shall be manufactured with no less than 10 gauge, 409 stainless steel material.

18. The DERS shall be constructed from Stainless Steel. In addition, the DERS should include a minimum of three (3) inches of mineral wool insulation and aluminum cladding to reduce thermal losses in the engine room. If installed outdoors the DERS shall minimize water intrusion in the insulation.

19. DERS components for each engine shall be fabricated so that the system can be mounted from the ceiling or can be floor mounted. It shall be possible to configure the system for bottom entry, top exit or end entry with top exit.

20. As an option the Vendor shall supply a urea storage system to be sized based on two (2) days of full load engine operation. The Urea storage system shall be provided complete with:
    - A pre-engineered external wall mounted fill station to allow a bulk truck to fill the urea storage tank(s). Fill station to be stainless steel, lockable and include high level alarm light and operator instructions in lamacoid signage.
    - If required, a pre-engineered urea booster pump system to transfer urea from the storage tank to the Urea Injection system associated with each SCR shall be provided. Where a shared booster pump is used to supply more than 1 engine it shall be a full-duplex type, such that the failure of a single urea booster pump does not affect more than 1 Urea Injection System
    - Main urea storage tank to be equipped with level measurement, leak detection and alarm
    - If required, heat tracing and insulation will be provided for the urea tank to prevent urea from freezing.

21. The services to be provided by the supplier under this section to include but to not be limited to the following for a complete and satisfactory operating system including the DERS.

    a. Shop drawings, fabrication and assembly as per "reviewed" shop drawings.

    b. Interface control wiring diagrams, schedules and wire running lists between all components

    c. Witness testing procedure to be submitted as a shop drawing for review by the Engineer. Witness testing shall include test equipment and testing to verify performance of the system.

    d. Delivery schedule

    e. Provide technical staff for supervision of site assembly, installation of power and control cable connections, installation and connections, and all other work normal to the M & E trades.

    f. Include site testing, calibration and commissioning, site testing and supplementary witness testing using permanent load bank. Witness testing procedure to be submitted as a shop drawing for review by the Engineer. Handling, installation, to be by the Installation Contractor.

    g. Providing technical staff and manuals for field training of Owner's staff in the complete operation of the system.

    h. Warranties to guarantee the reduction of emissions to the specified levels

    i. Services of a technical representative as required by the Owners to review production schedule, delivery dates, shop drawing changes, shop and field testing and training programs.

22. Unloading, hoisting and setting into place, and work normal to the electrical, mechanical and millwright trades such as providing interface power and control wiring to terminals within the equipment components, piping & ductwork, and installation of major components to be done by the Installation Contractor.

23. Materials and parts comprising the system to be new, of current manufacture, of a high grade and free from all defects and imperfections.

24. Tests shall be conducted, one engine at a time at varying loads up to full load on a third party supplied load bank.

25. Commissioning test results shall be provided to the Engineer for submission to the environmental authority having jurisdiction for final acceptance.

26. The DERS for each engine shall include for all the components, engineering services, field assembly drawings, on-site technical services as long as required by the eventual contractor in assembling the system and initial testing, commissioning, training, operating and maintenance manuals (part of base bid).

27. Include for one (1) year full warranty and verification of SCR performance prior to the expiry of the warranty, and a 2-year pro-rata warranty of the SCR catalyst in the reactors.

28. Reference Supplier

Safety Power Inc. (SPI) www.safetypower.ca
5155 Spectrum Way, unit 26
Mississauga, ON L4W 5A1 Canada
Office: 1-800-657-1280 x21
Mobile: (905) 377-9041
info@safetypower.ca

clean essential energy

DESIGN PARAMETERS

The design of the Safety Power emissions reduction system is based on the following conditions.
Note: NOx is calculated as NO_2.

Table 1 – Engine Data

Engine Type:	CAT C175-16	CAT C27	CAT C15
Application	Stand-by	Stand-by	Stand-by
Engine Power	3,000 ekW	800 ekW	500 ekW
Exhaust Temperature	891 °F	952 °F	988 °F
Design Exhaust Flow Rate	25,620 (CFM)	6,011 (CFM)	3,605 (CFM)
Fuel Type	Diesel	Diesel	Diesel

Table 2 – Emissions Data at Full Engine Load

Engine Option	Emissions	Catalyst Inlet	Emissions Requirement	Catalyst Outlet
Option 1 - CAT C175-16 (3,000 ekW)	NOx (g/HP-h)	6.07	0.50	0.50
	CO (g/HP-h)	0.34	2.60	0.34
	NMHC (g/HP-h)	0.04	0.14	0.04
	PM (g/HP-h)	0.03	0.02	0.02
Option 2 - CAT C27 (800 ekW)	NOx (g/HP-h)	5.18	0.50	0.50
	CO (g/HP-h)	0.23	2.60	0.23
	NMHC (g/HP-h)	0.03	0.14	0.03
	PM (g/HP-h)	0.02	0.02	0.02
Option 3 - CAT C15 (500 ekW)	NOx (g/HP-h)	4.58	0.50	0.50
	CO (g/HP-h)	0.63	2.60	0.63
	NMHC (g/HP-h)	0.02	0.14	0.02
	PM (g/HP-h)	0.03	0.02	0.02

Note: The ecoCUBE emission control performance guarantee included with this proposal is valid provided that the exhaust temperature entering the SCR system is above 260 deg C (500 deg F).

Notes: (1) The EPA does not treat methane and ethane as VOC's. Safety Power can achieve a stated reduction of VOC's based on the EPA definition assuming that the VOC's manifest themselves as propene. (2) all emissions reductions are based on an average at steady state using SCAQMD method 100.1 for NOx and EPA Alternate Method 106 for CO and VOC's or mutually agreed test method approved in writing. (3) if NMHC/VOC data isn't provided 0.6 g/hp-hr is to be assumed (unless otherwise stated).

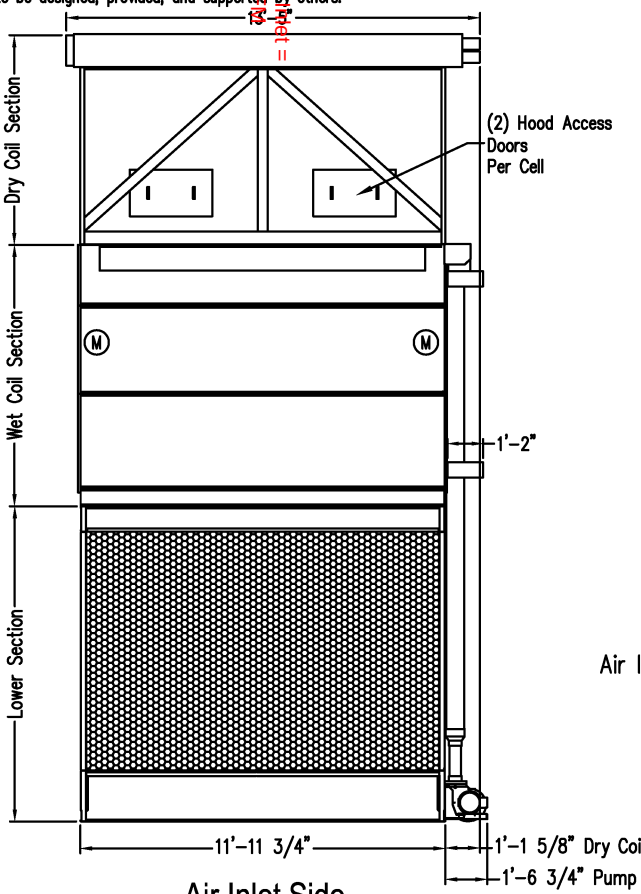
Table 3 – SCR System Data

System Details	Option 1 - CAT C175-16 (3,000 ekW)	Option 2 - CAT C27 (800 ekW)	Option 3 - CAT C15 (500 ekW)
Max. Ammonia Slip @ 15% O2	8 ppm	8 ppm	8 ppm
Urea Consumption - 32.5% solution (+/- 15%)	12.4 USG/hr	2.9 USG/hr	1.6 USG/hr
System Pressure Loss	21.5" WC	20.0" WC	15.0" WC
System Inlet/Outlet ANSI Flange Inches	28/28	18/18	18/18

Data Version 1.08
DWG Version 1.5

Notes
1) All dimensions are in feet and inches. Weights are in pounds.
2) Dimensions showing location of coil connections are approximate and should not be used for prefabrication of connecting piping.
3) The area above the discharge of the fan must be unobstructed.
4) For weight loading and support requirements refer to the unit support drawing.
5) Do not support piping from unit connections. All necessary piping supports to be supplied by others.
6) Weights include all the options and accessories.
7) All unit piping connections 3" and smaller are MPT unless otherwise noted.
8) Wet coil is provided with a 1/2" threaded vent located on the upper outlet pipe stub.
9) All coil connections are capped and charged with nitrogen.
10) Dry coils are provided with a 1/2" vent and 1/2" drain connection.
11) Drawing is not to scale.
12) All connections, except make-up, are typical for each cell.
13) Weights shown are for the combined weight of both cells.
14) Conduit penetration location is a recommendation only, final conduit penetration location and size to be determined by others.
15) Interconnecting coil piping to be designed, provided, and supported by others.

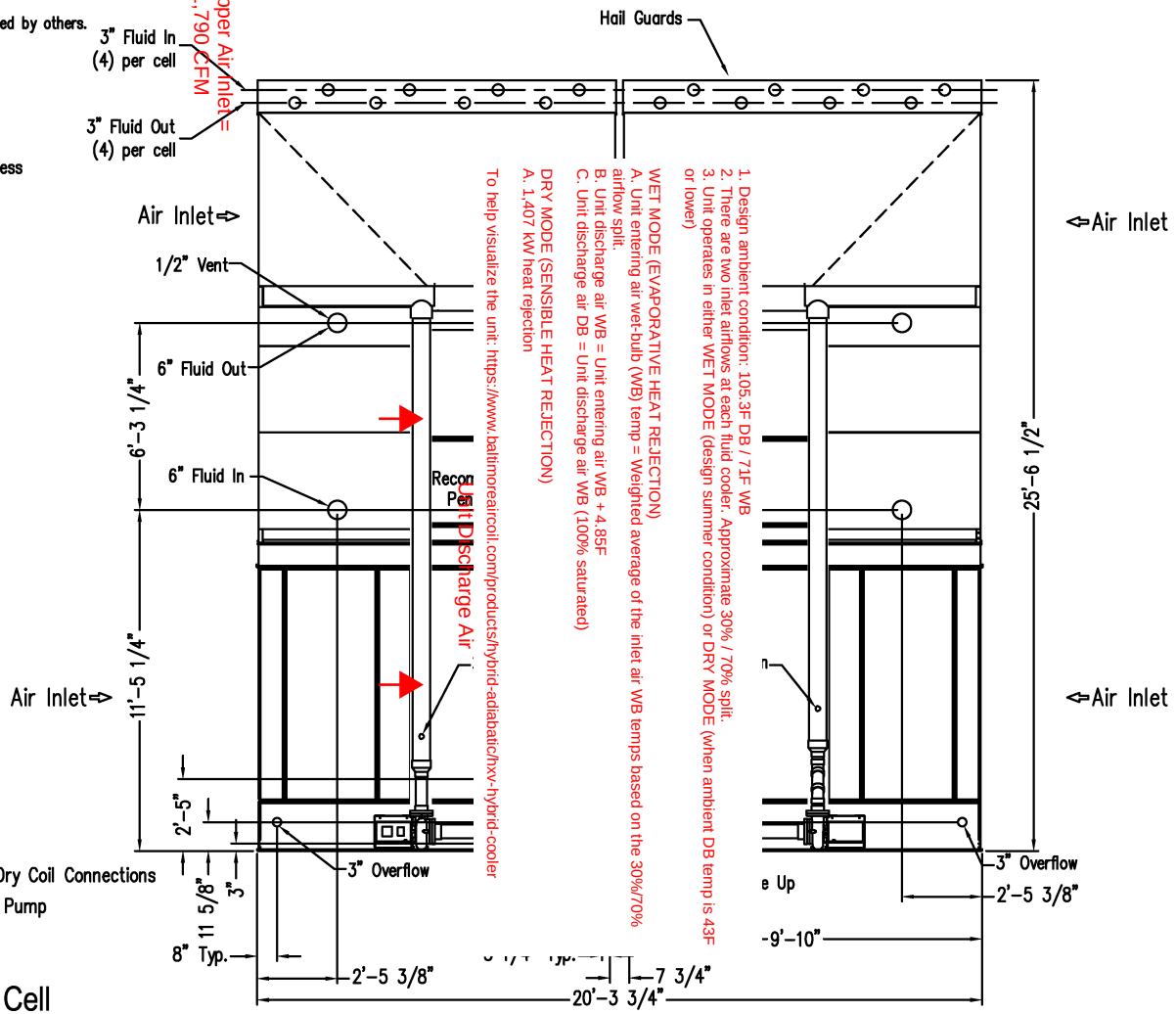
Lower Air Inlet = 50,830 CFM



Air Inlet Side

Upper Air Inlet = 21,790 CFM

Fluid Cooler (Typ.)



To help visualize the unit: https://www.baltimoreaircoil.com/products/hybrid-adiabatic/hxv-hybrid-cooler

DRY MODE (SENSIBLE HEAT REJECTION)
A. 1,407 kW heat rejection

WET MODE (EVAPORATIVE HEAT REJECTION)
A. Unit entering air wet-bulb (WB) temp = Weighted average of the inlet air WB temps based on the 30%/70% airflow split.
B. Unit discharge air WB = Unit entering air WB + 4.85F
C. Unit discharge air DB = Unit discharge air WB (100% saturated)

1. Design ambient condition: 105.3F DB / 71F WB
2. There are two inlet airflows at each fluid cooler. Approximate 30% / 70% split.
3. Unit operates in either WET MODE (design summer condition) or DRY MODE (when ambient DB temp is 43F or lower)

Two Cell Back to Back

Connection End

Model Number	Shipping Weight	Operating Weight	Heaviest Section (Wet Coil Section)
HXV-1012C-24T-L-2	36932	55602	9586

Lower Air Inlet = 50,830 CFM

Upper Air Inlet = 21,790 CFM

ORDER NO: **U1872469**

DATE: **05/21/2018**

BALTIMORE AIRCOIL COMPANY

10 X 12 Unit Print
Two Cells Back to Back

DRAWING NUMBER:
UP-U1872469X

Appendix AQ-3

Air Quality Impact Modeling Support Data

Table AQ3-1 **Air Quality Monitoring Data Summary**

Project: Microsoft DC
County: Santa Clara
AQM Site: Jackson St.

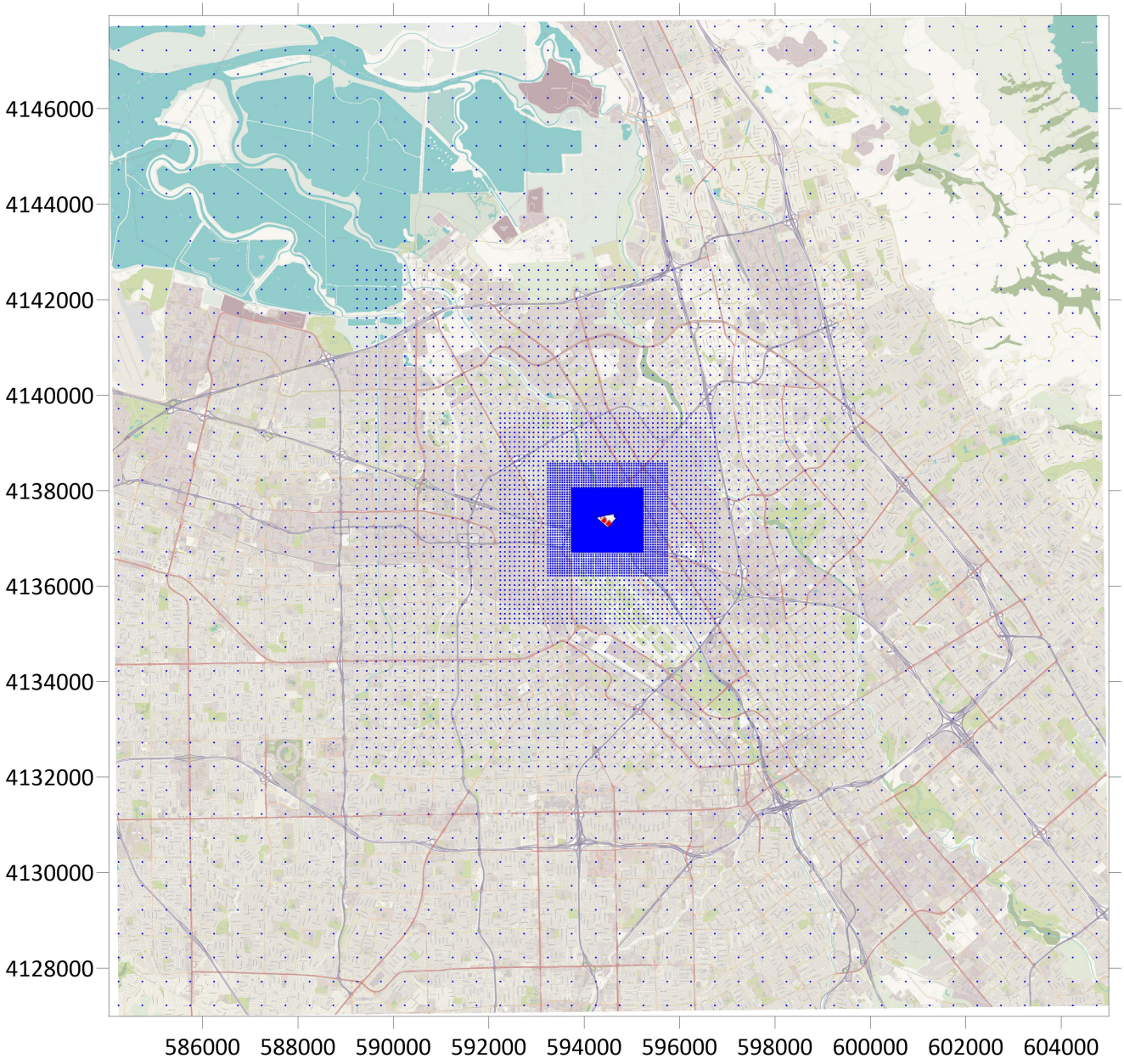
			EPA AIRS			Calculated Base Value	ug/m3	Background Analysis
			2019	2020	2021			
NO2	ppb	1st Max 1 Hr	60	52	47	60	112.9	Max 1 Hr
NO2	ppb	98th Pctile	52	45	39	45.33	85.3	3 Yr Avg of 98th Pctile
NO2	ppb	AAM	10.63	9.65	8.73	10.63	20.0	3-Year Maximum
CO	ppm	1st Max 8 Hr	1.3	1.5	1.5	1.5	1680	Max 8 Hr
CO	ppm	1st Max 1 Hr	1.7	1.8	1.7	1.8	2061	Max 1 Hr
SO2	ppb	1st Max 1 Hr	14.5	2.9	1.8	14.5	38.0	Max 1 Hr (same for 3 HR Max)
SO2	ppb	99th Pctile	2	2	2	2.00	5.2	3 Yr Avg of 99th Pctile
SO2	ppb	1st Max 24 Hr	1.5	0.8	0.07	1.5	3.9	3 Yr Max Value
SO2	ppb	2nd Max 24 Hr	0.6	0.8	0.5	0.8	2.1	3 Yr Max Value
SO2	ppb	AAM	0.14	0.17	0.17	0.17	0.44	3 Yr Max Value
Ozone	ppm	1st Max 8 Hr	0.081	0.085	0.084	0.085	166.9	Max 8 Hr
Ozone	ppm	1st Max 1 Hr	0.095	0.106	0.098	0.106	208.1	Max 1 hr
Ozone	ppm	8 Hr 4th High	0.06	0.068	0.072	0.07	130.9	3 Yr Avg of 4th Highs
PM10	ug/m3	1st Max 24 Hr	75	134	41	134	134	Max 24 Hr
PM10	ug/m3	4th Max 24 Hr	74.8	52.2	58	74.8	74.8	3 Yr Max Value
		Note: No EPA data for 4th High 24 hr. No CARB data for 2021. Value is based on CARB data for 2018-2020.						
PM2.5	ug/m3	1st Max 24 Hr	27.6	120.5	38.1	120.5	120.5	Max 24 Hr
PM2.5	ug/m3	98th Pctile	21	56	23	33.3	33.3	3 Yr Avg of 98th Pctile
PM2.5	ug/m3	Weight AM	9.1	11.5	8.9	9.8	9.8	3 Yr Avg
			CARB **					
NO2	ppb	1st Max 1 Hr	59	51	nd	59	111.0	3 Yr Max Value
NO2	ppb	AAM	10	9	nd	10	18.8	3 Yr Max Value
CO	ppm	No data						
SO2	ppb	No Data						
Ozone	ppm	1st Max 8 Hr	0.081	0.085	nd	0.085	166.9	3 Yr Max Value
Ozone	ppm	1st Max 1 Hr	0.095	0.106	nd	0.106	208.1	3 Yr Max Value
PM10	ug/m3	1st Max 24 Hr	77.1	137.1	nd	137.1	137.1	3 Yr Max Value
PM10	ug/m3	AAM	19.1	24.8	nd	24.8	24.8	3 Yr Max Value
PM2.5	ug/m3	AAM	9.1	11.5	nd	11.5	11.5	3 Yr Max Value

NAAQS data from EPA AIRS 03/23/2022
CAAQS data form CARB ADAM 03/23/2022
** No CARB data for 2021, therefore CARB data was not used for any background values.

Figure AQ3-1 Building and Stack Locations

Microsoft Data Center
Fence in Green
Fenceline Receptors in Blue
Buildings in Cyan
Stacks in Red

Figure AQ3-2 Nested Receptor Grids



Appendix AQ-4

Construction and Miscellaneous Operations Data

Table AQ4-1 Air Quality Construction Support Data

Project Name: Microsoft Data Center SJC04/06

See Equipment Type TAB for type, horsepower and load factor

Electrical Substation Area	75000	~ sq.ft.			21.25 Project Site area (acres) or approx. 925,650 sq.ft.
Water Storage Area	40000	~ sq.ft.			
Tank Support Bldg Space	2465	~ sq.ft.			Employees and Operational Year
SJC04 Data Center Space	308,300	~ sq.ft.	SJC04		SJC04 = 72 Ops Yr: 2027 MW req'd: 48
SJC06 Data Center Space	308,300	~ sq.ft.	SJC06		SJC06 = 72 Ops Yr: 2029 MW req'd: 48
SJC04 Parking lot / internal and external access space	98,000	~ sq.ft.	70	spaces	Other: Ops Yr: N/A
SJC06 Parking lot / internal and external access space	98,000	~ sq.ft.	62	spaces	Ops Visitors/day: SJC04/06 = 8
Construction Days and Hours (Monday-Friday)	7:00	am to	5:00	pm	Ops site deliveries per day: SJC04/06 = 6
					Total OPs round trips/day: Employees = 144, Visitors = 8, Deliveries = 6 (see Ops note 5 below)

Quantity	Phase Descriptions	HP	Load Factor	Use Rates Hours/day (2)	EQ Use Days	Est. Use Hrs/day	Phase Hours	Comments
								Overall Import/Export Volumes
	Demolition (none for SJC04)	Start Date:		Total phase days:	0	Each		Demolition Volume
		End Date:				Piece		Square footage of buildings to be demolished
0	Concrete/Industrial Saws	81	0.73	8	0	#DIV/0!	#DIV/0!	(*or* total tons to be hauled)
0	Excavators	158	0.38	8	0	#DIV/0!	#DIV/0!	0 square feet *or*
0	Rubber-Tired Dozers	247	0.4	8	0	#DIV/0!	#DIV/0!	
0	Tractors/Loaders/Backhoes	97	0.37	8	0	#DIV/0!	#DIV/0!	
0	Water Truck	172	0.42	8	0	#DIV/0!	#DIV/0!	
0								
	Demolition (none for SJC06)	Start Date:		Total phase days:	0			Overall Import/Export Volumes
		End Date:						Demolition Volume
0	Concrete/Industrial Saws	81	0.73	8	0	#DIV/0!	#DIV/0!	Square footage of buildings to be demolished
0	Excavators	158	0.38	8	0	#DIV/0!	#DIV/0!	(*or* total tons to be hauled)
0	Rubber-Tired Dozers	247	0.4	8	0	#DIV/0!	#DIV/0!	0 square feet *or*
0	Tractors/Loaders/Backhoes	97	0.37	8	0	#DIV/0!	#DIV/0!	
0	Water Truck	172	0.42	8	0	#DIV/0!	#DIV/0!	
0								
	Site Preparation SJC04	Start Date:	3/1/2024	Total phase days:	33			
		End Date:	4/15/2024					
1	Graders	187	0.41	8	30	7.3	218	
1	Rubber Tired Dozers	247	0.4	8	30	7.3	218	
1	Tractors/Loaders/Backhoes	97	0.37	8	25	6.1	152	
1	Water Truck	172	0.42	8	32	7.8	248	
4								
	Grading / Excavation /Trenching / Foundations SJC04	Start Date:	4/16/2024	Total phase days:	76			
		End Date:	7/31/2024					Soil Hauling Volume (all phases)
2	Excavators	158	0.38	8	60	6.3	758	Cut volume = 37,000 cubic yards?
1	Graders	187	0.41	8	30	3.2	95	Fill volume = 81500 cubic yards?
1	Rubber Tired Dozers	247	0.4	8	45	4.7	213	Import volume = 44500 cubic yards?
1	Scrapers	367	0.48	8	10	1.1	11	*All cut and fill completed in SJC04 Phase
1	Tractors/Loaders/Backhoes	97	0.37	8	45	4.7	213	Data source: Burns/McDonnell Site Report 2021
1	Water Truck	172	0.42	8	75	7.9	592	
7								

	Building Construction SJC04	**Start Date:**	**8/1/2024**	**Total phase days:**	**412**			**Cement Trucks? _770_ deliveries or _6160_ yd**
	(including Recycled Water linear construction)	**End Date:**	**2/28/2026**					(assumption: 8 yd3/delivery)
1	Cranes	231	0.29	7	200	3.4	680	
3	Forklifts	89	0.2	8	170	3.3	1683	Recycled water line is ~ 1.5 miles long, 2 ft wide, 6 ft deep
1	Generator Sets	84	0.74	8	120	2.3	280	Total waterline cut and fill = 3520 cu.yds.
2	Tractors/Loaders/Backhoes	97	0.37	8	170	3.3	1122	Trenching, pipe placement, backfill, re-surfacing =~ 90 days
1	Welders	46	0.45	8	200	3.9	777	
1	Water Truck	172	0.42	8	300	5.8	1748	
9								
	Architectural Coating SJC04	**Start Date:**	**2/1/2026**	**Total phase days:**	**42**			
		End Date:	**3/31/2026**					
2	Air Compressors	78	0.48	8	40	7.6	610	
1	Aerial Lift	62	0.31	8	40	7.6	305	
3								
	Paving SJC04	**Start Date:**	**2/1/2026**	**Total phase days:**	**43**			**Asphalt? __61_ deliveries or _1209_ yd3**
		Start Date:	**4/1/2026**					(assumption: 20 yd3/delivery)
0	Cement and Mortar Mixers	9	0.56	8	0	0.0	0	Avg asphalt thickness for commercial parking lots is 4"
1	Pavers	130	0.42	8	40	7.4	298	Parking lot ft2 divided by 81 = yd3 needed
2	Paving Equipment	132	0.36	8	35	6.5	456	
1	Rollers	80	0.38	8	40	7.4	298	
0	Tractors/Loaders/Backhoes	97	0.37	8	0	0.0	0	
4								
	End of SJC04 Phase							
	Site Preparation SJC06	**Start Date:**	**4/2/2026**	**Total phase days:**	**31**			
		End Date:	**5/15/2026**					
1	Graders	187	0.41	8	30	7.7	232	
1	Rubber Tired Dozers	247	0.4	8	30	7.7	232	
1	Tractors/Loaders/Backhoes	97	0.37	8	25	6.5	161	
1	Water Truck	172	0.42	8	30	7.7	232	
4								
	Grading / Excavation /Trenching / Foundations SJC06	**Start Date:**	**5/16/2026**	**Total phase days:**	**77**			
		End Date:	**8/31/2026**					**Soil Hauling Volume**
2	Excavators	158	0.38	8	60	6.2	748	Cut volume = **_0_** cubic yards?
1	Graders	187	0.41	8	30	3.1	94	Fill volume = **_0_** cubic yards?
1	Rubber Tired Dozers	247	0.4	8	45	4.7	210	Import volume = **0** cubic yards?
0	Concrete/Industrial Saws	81	0.73	8	0	0.0	0	*All cut/fill completed in SJC04 Phase
1	Tractors/Loaders/Backhoes	97	0.37	8	45	4.7	210	
1	Water Truck	172	0.42	8	76	7.9	600	
6								

	Building Construction SJC06	**Start Date:**	**9/1/2026**	**Total phase days:**	**413**			**Cement Trucks? 770_ deliveries or _6160_ yd3**
		End Date:	**3/31/2028**					(assumption: 8 yd3/delivery)
1	Cranes	231	0.29	7	200	3.4	678	
3	Forklifts	89	0.2	8	170	3.3	1679	
1	Generator Sets	84	0.74	8	30	0.6	17	
2	Tractors/Loaders/Backhoes	97	0.37	7	170	2.9	980	
1	Welders	46	0.45	8	200	3.9	775	
1	Water Truck	172	0.42	8	300	5.8	1743	
9								
	Architectural Coating SJC06	**Start Date:**	**4/1/2028**	**Total phase days:**	**43**			
		End Date:	**5/31/2028**					
2	Air Compressors	78	0.48	8	40	7.4	595	
1	Aerial Lift	62	0.31	8	40	7.4	298	
3								
	Paving SVJC6	**Start Date:**	**4/1/2028**	**Total phase days:**	**43**			**Asphalt? __61_ deliveries or _1209_ yd3**
		Start Date:	**5/31/2028**					(assumption: 20 yd3/delivery)
0	Cement and Mortar Mixers	9	0.56	8	0	0.0	0	See notes above.
1	Pavers	130	0.42	8	40	7.4	298	
2	Paving Equipment	132	0.36	8	35	6.5	456	
1	Rollers	80	0.38	8	40	7.4	298	
0	Tractors/Loaders/Backhoes	97	0.37	8	0	0.0	0	
4								
	End of SJC06 Phase							

See equipment HP and Load Factors in "Equipment Types" worksheet tab.

Notes:

1. Equipment types by phase derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.
2. Equipment run hours per day derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.
3. Watering for fugitive dust control at a minimum of 2 times per day
4. onsite speed will be limited to <=5 mph
5. Const phase will be serviced by only offsite paved roads
6. Trench construction times per: Southern Regional Water Pipeline Alliance, 3/08.
   Optimum trench construction progress rate is 80m (260ft) per day.
   Non-optimum trench construction progress rate is 30m (100 ft) per day.
   An average progress of 180 ft/day is used where applicable, or the applicant supplied timeframe.
7. Phase start and end months/yrs supplied by the Applicant.
8. CalEEMod defaults used for worker estimates, etc.

Other Misc Ops Data for CalEEMod Input (Final Buildout Ops)

1. Power needs ~96 MW PG&E Carbon Intensity Factor= 206 lbs CO2/Mwh
2. Reclaimed water use for bldg cooling ~ 1532 acre-feet/yr
3. Potable water use for bldg employees ~6400 gals/yr/employee =~ 3 acre-feet/yr
   CBECS (2012), Table W1, EIA.gov
4. Waste generation rates ~ 1.15 ton/yr/employee ~= 166 tons/yr
5. OPs round trips/day: Employees = 144, Visitors = 8, Deliveries = 6
   Estimated OPs total round trips/day = (144 x 1.25)+8+6 = 194
6. Landscaping water use is estimated to be ~11 acre-feet/yr.
   Univ. of CA., Division of Agriculture and Natural Resources (Landscape Calculator)
   https://ucanr.edu/sites/UrbanHort/Water_Use_of_Turfgrass_and_Landscape_Plant_Materials/
7. Ops phase will be serviced by only offsite paved roads

Table AQ4-2 Air Quality Construction Support Data

Project Name: Microsoft Data Center Offsite Reclaim Water Line

See Equipment Type TAB for type, horsepower and load factor

Electrical Substation Area	75000	~ sq.ft.			21.25 Project Site area (acres) or approx. 925,650 sq.ft.
Water Storage Area	40000	~ sq.ft.			
Tank Support Bldg Space	2465	~ sq.ft.			Employees and Operational Year
SJC04 Data Center Space	308,300	~ sq.ft.	SJC04		SJC04 = 72 Ops Yr: 2027 MW req'd: 48
SJC06 Data Center Space	308,300	~ sq.ft.	SJC06		SJC06 = 72 Ops Yr: 2029 MW req'd: 48
SJC04 Parking lot / internal and external access space	98,000	~ sq.ft.	70	spaces	Other: Ops Yr: N/A
SJC06 Parking lot / internal and external access space	98,000	~ sq.ft.	62	spaces	Ops Visitors/day: SJC04/06 = 8
Construction Days and Hours (Monday-Friday)	7:00	am to	5:00	pm	Ops site deliveries per day: SJC04/06 = 6

The reclaim water line will be constructed during the construction for SJC04 data center building. The start and end dates are arbitrary, but they cover the 90 period required during this time frame.

Quantity	Phase Descriptions	HP	Load Factor	Default Use Rates Hours/day (2)	EQ Use Days	Estimated Use Hrs/day	Phase Hours	Comments
	Reclaim Water Line-Offsite Construction	Start Date:	3/1/2025	Total phase days:	90			Data (best estimate)
		End Date:	7/4/2025					Recycled water line is ~ 1.5 miles long, 2 ft wide, 6 ft deep
1	Excavator	158	0.38	8	70	6.2	436	Total waterline cut and fill = 3520 cu.yds.
1	Forklift	89	0.2	8	35	3.1	109	Trenching, pipe placement, backfill, re-surfacing =~ 90 days
1	Tractors/Loaders/Backhoes	97	0.37	8	70	6.2	436	Corridor width unknown (assumed 15 ft wide)
1	Other Const Equipment (Pipe haul truck)	172	0.42	8	32	2.8	91	Corridor assumed area =~ 2.73 acres
1	Roller	80	0.38	8	20	1.8	36	
5								

See equipment HP and Load Factors in "Equipment Types" worksheet tab.

Notes:

1. Equipment types by phase derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.
2. Equipment run hours per day derived from CalEEMod, SCAQMD Const Survey, App E-1, 2020, OR CalEEMod Tables 3.2, App D, 2020.
3. Watering for fugitive dust control at a minimum of 2 times per day (provided by main site watering truck)
4. pipeline corridor onsite speed will be limited to <=5 mph
5. Const phase will be serviced by only offsite paved roads
6. Trench construction times per: Southern Regional Water Pipeline Alliance, 3/08.
   Optimum trench construction progress rate is 80m (260ft) per day.
   Non-optimum trench construction progress rate is 30m (100 ft) per day.
   An average progress of 180 ft/day is used where applicable, or the applicant supplied timeframe.
7. Phase start and end months/yrs estimated by the Applicant.
8. CalEEMod defaults used for worker estimates, etc.

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Microsoft SJC04

Santa Clara County, Annual

Table AQ4-3

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	523.80	1000sqft	21.25	523,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2027
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Data from Applicant. PG&E used-same as SJC02/03 project.

Land Use - Bldg data supplied by Applicant. Parcel size supplied Applicant.
Phase SJC04 includes SJC04 bldg, substation area, water storage area, tank support bldg, and parking/access paved areas for bldg 1 only.

Construction Phase - Const start and end dates supplied by Applicant. Phase lengths estimated by ADI based on adjustments to CallEEMod App D Table 3.1, for default 25 acre site.

Off-road Equipment - Best estimate Applicant/ADI.

Off-road Equipment - Best estimate Applicant/ADI. Other Const EQ = water truck

Off-road Equipment - There is no demo phase for SJC04.

Off-road Equipment - Best estimate Applicant/ADI. Other Const EQ = water truck.

Off-road Equipment - Best estimate Applicant/ADI.

Off-road Equipment - Best estimate Applicant and ADI. Other Const EQ = water truck.

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - Total cut and fill = 81500 yd3. 37000 yd3 will be balanced on site, i.e., no offsite haul required. 44500 yd3 will be imported (hauled to site).
All values from Burns/McDonnell Site Report 2021
Site Prep graqded acres = 1 pass across the site.
Grading phase assumes 5 passes across the site.

Demolition - No demo for SJC04.

Trips and VMT - Soil import during grading = 44500 yd3 at 20 yd3 per haul = 2225 + 200 misc hauls = 2425
Bldg const: avg 7 deliveries/day for 400 days = 2800 + concrete deliveries at 770 = 3570
Paving (asphalt); 1209 yd3 at 20 yd3 per haul = 61
SIte prep: 15 hauls assumed for grubbed material hauls away from site + hauls to gravel ingress and egress during early const.

On-road Fugitive Dust - Defaults used.

Architectural Coating - Defaults used. Parking/access/ingress/egress for SJC04 = 98000 sq.ft. scaled from site drawings.

Vehicle Trips - SJC04 bldg sq.ft = 308300 or 308.3 x10^3 sq.ft. 72 employees to cover all shifts, 7 days/week.
Calculated trip rate is 0.234/1000 sq.ft. per day
This rate was not adjusted down on the weekends when employee counts will be lower than weekdays.

Fleet Mix - Defaults used.

Road Dust - No Unpaved roads will service the operational facility.

Woodstoves - No woodstoves or fireplaces are proposed for use.

Consumer Products - Defaults used.

Area Coating - Defaults used. The total estimated paved area associated wi the SJC04 is 98000 sq.ft.

Landscape Equipment - Defaults used.

Energy Use - 48 MW data center use will be calculated external to CalEEMod using the PG&E carbon intensity factor.
Calculations resulting from this page of inputs are considered as misc energy use in addition to the external value noted above.

Water And Wastewater - Indoor water use includes bldg cooling and employee uses. SJC04 will use ~766 acre-fett of reclaim water for cooling per year, and 1.5 acre-feet of potable water for employee use = 767.5 acre-feet/yr or 250.21 million gals.
Outdoor water use is assumed to be landscaping only. SJC04 will use 5.5 acre-feet of reclaimed water for landscaping use or 1.793 million gals. The estimated landscaped area is 4 acres.
SJC04 bldg is 308300 sq.ft.

Solid Waste - SJC04 bldg is 308300 sq.ft. with 72 employees.
Waste generation rate of 1.15 ton/yr/employee was used. Total estimated waste per year is 83 tons for SJC04.

Operational Off-Road Equipment - None

Stationary Sources - Emergency Generators and Fire Pumps - None. See external emissions calculations.

Stationary Sources - Emergency Generators and Fire Pumps EF - None

Stationary Sources - Process Boilers - None

Stationary Sources - Process Boilers EF - None

Stationary Sources - User Defined - None

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use Change - Pre-project site is 21.25 acres of open grassland. Post-project landscaped area is estimated at 4 acres (mixed bushes, trees, grasses).
Sequestration - None claimed.

Construction Off-road Equipment Mitigation - Tier 4 engines assumed for all proposed const EQ.
No Unpaved roads will be used.

Mobile Land Use Mitigation - Defaults used.

Mobile Commute Mitigation - Defaults used.

Area Mitigation - Defaults used.

Energy Mitigation - Defaults used.

Water Mitigation - Reclaim water will be predominant water used at the site during operations.

Waste Mitigation - Defaults used.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	0.00	98,000.00
tblAreaCoating	Area_Parking	0	98000
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	370.00	412.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	35.00	77.00
tblConstructionPhase	NumDays	20.00	43.00
tblConstructionPhase	NumDays	10.00	32.00
tblConstructionPhase	PhaseEndDate	12/25/2025	4/1/2026
tblConstructionPhase	PhaseEndDate	10/30/2025	2/28/2026
tblConstructionPhase	PhaseEndDate	3/28/2024	2/29/2024
tblConstructionPhase	PhaseEndDate	5/30/2024	7/31/2024
tblConstructionPhase	PhaseEndDate	11/27/2025	4/1/2026
tblConstructionPhase	PhaseEndDate	4/11/2024	4/15/2024
tblConstructionPhase	PhaseStartDate	11/28/2025	2/1/2026

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	PhaseStartDate	5/31/2024	8/1/2024
tblConstructionPhase	PhaseStartDate	4/12/2024	4/16/2024
tblConstructionPhase	PhaseStartDate	10/31/2025	2/1/2026
tblConstructionPhase	PhaseStartDate	3/29/2024	3/1/2024
tblGrading	AcresOfGrading	48.61	106.25
tblGrading	AcresOfGrading	29.20	21.25
tblGrading	MaterialImported	0.00	44,500.00
tblLandUse	LotAcreage	12.02	21.25
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	7.30
tblOffRoadEquipment	UsageHours	8.00	6.10

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	8.00	6.30
tblOffRoadEquipment	UsageHours	8.00	3.20
tblOffRoadEquipment	UsageHours	8.00	4.70
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	8.00	4.70
tblOffRoadEquipment	UsageHours	7.00	3.40
tblOffRoadEquipment	UsageHours	8.00	3.30
tblOffRoadEquipment	UsageHours	8.00	2.30
tblOffRoadEquipment	UsageHours	7.00	3.30
tblOffRoadEquipment	UsageHours	8.00	3.90
tblOffRoadEquipment	UsageHours	8.00	7.40
tblOffRoadEquipment	UsageHours	8.00	6.50
tblOffRoadEquipment	UsageHours	8.00	7.40
tblOffRoadEquipment	UsageHours	6.00	7.60
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblSolidWaste	SolidWasteGenerationRate	487.13	0.27
tblTripsAndVMT	HaulingTripNumber	0.00	15.00
tblTripsAndVMT	HaulingTripNumber	5,563.00	2,425.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,570.00
tblTripsAndVMT	HaulingTripNumber	0.00	61.00
tblTripsAndVMT	WorkerTripNumber	34.00	25.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	2.21	0.23
tblVehicleTrips	SU_TR	0.70	0.23
tblVehicleTrips	WD_TR	9.74	0.23

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblWater	IndoorWaterUseRate	93,096,937.20	811,580.00
tblWater	OutdoorWaterUseRate	57,059,413.12	10,290.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.1501	1.5973	1.4881	4.7200e-003	0.4332	0.0556	0.4888	0.1688	0.0515	0.2203						446.9699
2025	0.1600	1.5669	1.7522	6.1200e-003	0.2670	0.0449	0.3119	0.0729	0.0420	0.1149						583.5343
2026	3.1195	0.4228	0.5745	1.4800e-003	0.0494	0.0152	0.0646	0.0135	0.0143	0.0278						137.8065
Maximum	**3.1195**	**1.5973**	**1.7522**	**6.1200e-003**	**0.4332**	**0.0556**	**0.4888**	**0.1688**	**0.0515**	**0.2203**						**583.5343**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0583	0.5902	1.6931	4.7200e-003	0.2714	6.9200e-003	0.2783	0.0968	6.7600e-003	0.1036						446.9697
2025	0.0859	0.8351	1.8888	6.1200e-003	0.2670	7.9500e-003	0.2749	0.0729	7.7000e-003	0.0806						583.5341
2026	3.0921	0.1607	0.6332	1.4800e-003	0.0494	2.0200e-003	0.0515	0.0135	1.9700e-003	0.0154						137.8065
Maximum	**3.0921**	**0.8351**	**1.8888**	**6.1200e-003**	**0.2714**	**7.9500e-003**	**0.2783**	**0.0968**	**7.7000e-003**	**0.1036**						**583.5341**

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.64**	**55.78**	**-10.49**	**0.00**	**21.59**	**85.40**	**30.12**	**28.21**	**84.75**	**45.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2024**	**5-31-2024**	0.5693	0.1233
2	**6-1-2024**	**8-31-2024**	0.5606	0.2066
3	**9-1-2024**	**11-30-2024**	0.4588	0.2333
4	**12-1-2024**	**2-28-2025**	0.4397	0.2327
5	**3-1-2025**	**5-31-2025**	0.4326	0.2297
6	**6-1-2025**	**8-31-2025**	0.4289	0.2260
7	**9-1-2025**	**11-30-2025**	0.4315	0.2308
8	**12-1-2025**	**2-28-2026**	1.9479	1.6750
9	**3-1-2026**	**5-31-2026**	1.7362	1.6513
		Highest	1.9479	1.6750

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.3533	4.0000e-005	4.8000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.9700e-003
Energy	0.0458	0.4160	0.3494	2.5000e-003		0.0316	0.0316		0.0316	0.0316						1,295.8670
Mobile	0.0234	0.0116	0.1099	3.0000e-005	7.0000e-005	8.0000e-005	1.4000e-004	2.0000e-005	7.0000e-005	9.0000e-005						2.9603
Waste						0.0000	0.0000		0.0000	0.0000						0.1353
Water						0.0000	0.0000		0.0000	0.0000						1.5184
Total	**2.4225**	**0.4276**	**0.4641**	**2.5300e-003**	**7.0000e-005**	**0.0317**	**0.0318**	**2.0000e-005**	**0.0317**	**0.0317**						**1,300.4909**

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.3533	4.0000e-005	4.8000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.9700e-003
Energy	0.0458	0.4160	0.3494	2.5000e-003		0.0316	0.0316		0.0316	0.0316						1,295.8670
Mobile	0.0234	0.0116	0.1099	3.0000e-005	7.0000e-005	8.0000e-005	1.4000e-004	2.0000e-005	7.0000e-005	9.0000e-005						2.9603
Waste						0.0000	0.0000		0.0000	0.0000						0.1353
Water						0.0000	0.0000		0.0000	0.0000						0.9123
Total	**2.4225**	**0.4276**	**0.4641**	**2.5300e-003**	**7.0000e-005**	**0.0317**	**0.0318**	**2.0000e-005**	**0.0317**	**0.0317**						**1,299.8848**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-74.3475
Total	**-74.3475**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2024	2/29/2024	5	0	No Demo Phase
2	Site Preparation	Site Preparation	3/1/2024	4/15/2024	5	32	
3	Grading	Grading	4/16/2024	7/31/2024	5	77	
4	Building Construction	Building Construction	8/1/2024	2/28/2026	5	412	
5	Paving	Paving	2/1/2026	4/1/2026	5	43	
6	Architectural Coating	Architectural Coating	2/1/2026	4/1/2026	5	43	

Acres of Grading (Site Preparation Phase): 21.25

Acres of Grading (Grading Phase): 106.25

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 785,700; Non-Residential Outdoor: 261,900; Striped Parking Area: 98,000 (Architectural Coating – sqft)

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Graders	1	7.30	187	0.41
Site Preparation	Other Construction Equipment	1	7.80	172	0.42
Site Preparation	Rubber Tired Dozers	1	7.30	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	6.10	97	0.37
Grading	Excavators	2	6.30	158	0.38
Grading	Graders	1	3.20	187	0.41
Grading	Other Construction Equipment	1	7.80	172	0.42
Grading	Rubber Tired Dozers	1	4.70	247	0.40
Grading	Scrapers	1	1.10	367	0.48
Grading	Tractors/Loaders/Backhoes	1	4.70	97	0.37
Building Construction	Cranes	1	3.40	231	0.29
Building Construction	Forklifts	3	3.30	89	0.20
Building Construction	Generator Sets	1	2.30	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	3.30	97	0.37
Building Construction	Welders	1	3.90	46	0.45
Paving	Pavers	1	7.40	130	0.42
Paving	Paving Equipment	2	6.50	132	0.36
Paving	Rollers	1	7.40	80	0.38
Building Construction	Other Construction Equipment	1	5.80	172	0.42
Architectural Coating	Air Compressors	2	7.60	78	0.48
Architectural Coating		1	7.60		

Trips and VMT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	15.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	2,425.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	168.00	86.00	3,570.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	61.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	25.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0992	0.0000	0.0992	0.0496	0.0000	0.0496						0.0000
Off-Road	0.0222	0.2318	0.1590	3.5000e-004		0.0100	0.0100		9.2200e-003	9.2200e-003						31.3750
Total	**0.0222**	**0.2318**	**0.1590**	**3.5000e-004**	**0.0992**	**0.0100**	**0.1092**	**0.0496**	**9.2200e-003**	**0.0588**						**31.3750**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.0200e-003	2.4000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005						0.4633
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.7000e-004	2.5000e-004	3.3300e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004						0.9433
Total	**3.9000e-004**	**1.2700e-003**	**3.5700e-003**	**1.0000e-005**	**1.4000e-003**	**2.0000e-005**	**1.4100e-003**	**3.8000e-004**	**2.0000e-005**	**3.8000e-004**						**1.4066**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0446	0.0000	0.0446	0.0223	0.0000	0.0223						0.0000
Off-Road	4.3500e-003	0.0189	0.2006	3.5000e-004		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004						31.3750
Total	**4.3500e-003**	**0.0189**	**0.2006**	**3.5000e-004**	**0.0446**	**5.8000e-004**	**0.0452**	**0.0223**	**5.8000e-004**	**0.0229**						**31.3750**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.0200e-003	2.4000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005						0.4633
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.7000e-004	2.5000e-004	3.3300e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004						0.9433
Total	**3.9000e-004**	**1.2700e-003**	**3.5700e-003**	**1.0000e-005**	**1.4000e-003**	**2.0000e-005**	**1.4100e-003**	**3.8000e-004**	**2.0000e-005**	**3.8000e-004**						**1.4066**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1951	0.0000	0.1951	0.0813	0.0000	0.0813						0.0000
Off-Road	0.0517	0.5030	0.5255	9.9000e-004		0.0228	0.0228		0.0210	0.0210						87.5353
Total	**0.0517**	**0.5030**	**0.5255**	**9.9000e-004**	**0.1951**	**0.0228**	**0.2179**	**0.0813**	**0.0210**	**0.1023**						**87.5353**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5300e-003	0.1650	0.0385	7.2000e-004	0.0206	1.3500e-003	0.0219	5.6600e-003	1.2900e-003	6.9500e-003						74.8983
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.6200e-003	1.0800e-003	0.0144	4.0000e-005	5.5000e-003	3.0000e-005	5.5200e-003	1.4600e-003	2.0000e-005	1.4900e-003						4.0857
Total	**4.1500e-003**	**0.1660**	**0.0530**	**7.6000e-004**	**0.0261**	**1.3800e-003**	**0.0274**	**7.1200e-003**	**1.3100e-003**	**8.4400e-003**						**78.9840**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0366	0.0000	0.0366						0.0000
Off-Road	0.0122	0.0527	0.6343	9.9000e-004		1.6200e-003	1.6200e-003		1.6200e-003	1.6200e-003						87.5352
Total	**0.0122**	**0.0527**	**0.6343**	**9.9000e-004**	**0.0878**	**1.6200e-003**	**0.0894**	**0.0366**	**1.6200e-003**	**0.0382**						**87.5352**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5300e-003	0.1650	0.0385	7.2000e-004	0.0206	1.3500e-003	0.0219	5.6600e-003	1.2900e-003	6.9500e-003						74.8983
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.6200e-003	1.0800e-003	0.0144	4.0000e-005	5.5000e-003	3.0000e-005	5.5200e-003	1.4600e-003	2.0000e-005	1.4900e-003						4.0857
Total	**4.1500e-003**	**0.1660**	**0.0530**	**7.6000e-004**	**0.0261**	**1.3800e-003**	**0.0274**	**7.1200e-003**	**1.3100e-003**	**8.4400e-003**						**78.9840**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0442	0.4079	0.4769	7.9000e-004		0.0193	0.0193		0.0180	0.0180						68.6351
Total	**0.0442**	**0.4079**	**0.4769**	**7.9000e-004**		**0.0193**	**0.0193**		**0.0180**	**0.0180**						**68.6351**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.8000e-004	0.0643	0.0150	2.8000e-004	8.0100e-003	5.2000e-004	8.5400e-003	2.2000e-003	5.0000e-004	2.7100e-003						29.1714
Vendor	5.0100e-003	0.2088	0.0645	9.4000e-004	0.0309	1.2400e-003	0.0321	8.9200e-003	1.1800e-003	0.0101						95.8822
Worker	0.0214	0.0142	0.1908	5.8000e-004	0.0726	3.4000e-004	0.0730	0.0193	3.1000e-004	0.0196						53.9804
Total	**0.0274**	**0.2873**	**0.2703**	**1.8000e-003**	**0.1115**	**2.1000e-003**	**0.1136**	**0.0304**	**1.9900e-003**	**0.0324**						**179.0340**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8000e-003	0.0641	0.5314	7.9000e-004		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003						68.6350
Total	**9.8000e-003**	**0.0641**	**0.5314**	**7.9000e-004**		**1.2300e-003**	**1.2300e-003**		**1.2300e-003**	**1.2300e-003**						**68.6350**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.8000e-004	0.0643	0.0150	2.8000e-004	8.0100e-003	5.2000e-004	8.5400e-003	2.2000e-003	5.0000e-004	2.7100e-003						29.1714
Vendor	5.0100e-003	0.2088	0.0645	9.4000e-004	0.0309	1.2400e-003	0.0321	8.9200e-003	1.1800e-003	0.0101						95.8822
Worker	0.0214	0.0142	0.1908	5.8000e-004	0.0726	3.4000e-004	0.0730	0.0193	3.1000e-004	0.0196						53.9804
Total	**0.0274**	**0.2873**	**0.2703**	**1.8000e-003**	**0.1115**	**2.1000e-003**	**0.1136**	**0.0304**	**1.9900e-003**	**0.0324**						**179.0340**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0976	0.8853	1.1358	1.8900e-003		0.0399	0.0399		0.0372	0.0372						164.4044
Total	**0.0976**	**0.8853**	**1.1358**	**1.8900e-003**		**0.0399**	**0.0399**		**0.0372**	**0.0372**						**164.4044**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3400e-003	0.1529	0.0361	6.6000e-004	0.0192	1.2600e-003	0.0205	5.2800e-003	1.2000e-003	6.4800e-003						68.5062
Vendor	0.0117	0.4980	0.1521	2.2200e-003	0.0739	2.9700e-003	0.0768	0.0214	2.8400e-003	0.0242						225.6793
Worker	0.0484	0.0308	0.4282	1.3500e-003	0.1739	7.8000e-004	0.1747	0.0462	7.2000e-004	0.0470						124.9445
Total	**0.0624**	**0.6816**	**0.6164**	**4.2300e-003**	**0.2670**	**5.0100e-003**	**0.2720**	**0.0729**	**4.7600e-003**	**0.0776**						**419.1300**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0235	0.1535	1.2725	1.8900e-003		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003						164.4042
Total	**0.0235**	**0.1535**	**1.2725**	**1.8900e-003**		**2.9400e-003**	**2.9400e-003**		**2.9400e-003**	**2.9400e-003**						**164.4042**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3400e-003	0.1529	0.0361	6.6000e-004	0.0192	1.2600e-003	0.0205	5.2800e-003	1.2000e-003	6.4800e-003						68.5062
Vendor	0.0117	0.4980	0.1521	2.2200e-003	0.0739	2.9700e-003	0.0768	0.0214	2.8400e-003	0.0242						225.6793
Worker	0.0484	0.0308	0.4282	1.3500e-003	0.1739	7.8000e-004	0.1747	0.0462	7.2000e-004	0.0470						124.9445
Total	**0.0624**	**0.6816**	**0.6164**	**4.2300e-003**	**0.2670**	**5.0100e-003**	**0.2720**	**0.0729**	**4.7600e-003**	**0.0776**						**419.1300**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0157	0.1425	0.1828	3.0000e-004		6.4200e-003	6.4200e-003		5.9900e-003	5.9900e-003						26.4559
Total	**0.0157**	**0.1425**	**0.1828**	**3.0000e-004**		**6.4200e-003**	**6.4200e-003**		**5.9900e-003**	**5.9900e-003**						**26.4559**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0244	5.8200e-003	1.0000e-004	3.0900e-003	2.0000e-004	3.2900e-003	8.5000e-004	1.9000e-004	1.0400e-003						10.7985
Vendor	1.8500e-003	0.0796	0.0242	3.5000e-004	0.0119	4.7000e-004	0.0124	3.4400e-003	4.5000e-004	3.8900e-003						35.6714
Worker	7.3700e-003	4.5100e-003	0.0651	2.1000e-004	0.0280	1.2000e-004	0.0281	7.4400e-003	1.1000e-004	7.5500e-003						19.4926
Total	**9.5900e-003**	**0.1085**	**0.0951**	**6.6000e-004**	**0.0430**	**7.9000e-004**	**0.0438**	**0.0117**	**7.5000e-004**	**0.0125**						**65.9626**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.7800e-003	0.0247	0.2048	3.0000e-004		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004						26.4558
Total	**3.7800e-003**	**0.0247**	**0.2048**	**3.0000e-004**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**						**26.4558**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7000e-004	0.0244	5.8200e-003	1.0000e-004	3.0900e-003	2.0000e-004	3.2900e-003	8.5000e-004	1.9000e-004	1.0400e-003						10.7985
Vendor	1.8500e-003	0.0796	0.0242	3.5000e-004	0.0119	4.7000e-004	0.0124	3.4400e-003	4.5000e-004	3.8900e-003						35.6714
Worker	7.3700e-003	4.5100e-003	0.0651	2.1000e-004	0.0280	1.2000e-004	0.0281	7.4400e-003	1.1000e-004	7.5500e-003						19.4926
Total	**9.5900e-003**	**0.1085**	**0.0951**	**6.6000e-004**	**0.0430**	**7.9000e-004**	**0.0438**	**0.0117**	**7.5000e-004**	**0.0125**						**65.9626**

3.6 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1044	0.1833	2.9000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003						25.4948
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**0.0113**	**0.1044**	**0.1833**	**2.9000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**						**25.4948**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	4.0900e-003	9.8000e-004	2.0000e-005	5.2000e-004	3.0000e-005	5.5000e-004	1.4000e-004	3.0000e-005	1.7000e-004						1.8100
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.5000e-004	2.7000e-004	3.9700e-003	1.0000e-005	1.7100e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004						1.1879
Total	**5.1000e-004**	**4.3600e-003**	**4.9500e-003**	**3.0000e-005**	**2.2300e-003**	**4.0000e-005**	**2.2600e-003**	**5.9000e-004**	**4.0000e-005**	**6.3000e-004**						**2.9979**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5500e-003	0.0154	0.2187	2.9000e-004		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004						25.4948
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**3.5500e-003**	**0.0154**	**0.2187**	**2.9000e-004**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**						**25.4948**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	4.0900e-003	9.8000e-004	2.0000e-005	5.2000e-004	3.0000e-005	5.5000e-004	1.4000e-004	3.0000e-005	1.7000e-004						1.8100
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.5000e-004	2.7000e-004	3.9700e-003	1.0000e-005	1.7100e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004						1.1879
Total	**5.1000e-004**	**4.3600e-003**	**4.9500e-003**	**3.0000e-005**	**2.2300e-003**	**4.0000e-005**	**2.2600e-003**	**5.9000e-004**	**4.0000e-005**	**6.3000e-004**						**2.9979**

3.7 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.0720					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	9.3100e-003	0.0624	0.0985	1.6000e-004		2.8100e-003	2.8100e-003		2.8100e-003	2.8100e-003						13.9257
Total	**3.0813**	**0.0624**	**0.0985**	**1.6000e-004**		**2.8100e-003**	**2.8100e-003**		**2.8100e-003**	**2.8100e-003**						**13.9257**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.1200e-003	6.9000e-004	9.9200e-003	3.0000e-005	4.2600e-003	2.0000e-005	4.2800e-003	1.1300e-003	2.0000e-005	1.1500e-003						2.9698
Total	**1.1200e-003**	**6.9000e-004**	**9.9200e-003**	**3.0000e-005**	**4.2600e-003**	**2.0000e-005**	**4.2800e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**						**2.9698**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.0720					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	1.6200e-003	7.0100e-003	0.0998	1.6000e-004		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004						13.9257
Total	**3.0736**	**7.0100e-003**	**0.0998**	**1.6000e-004**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**						**13.9257**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.1200e-003	6.9000e-004	9.9200e-003	3.0000e-005	4.2600e-003	2.0000e-005	4.2800e-003	1.1300e-003	2.0000e-005	1.1500e-003						2.9698
Total	**1.1200e-003**	**6.9000e-004**	**9.9200e-003**	**3.0000e-005**	**4.2600e-003**	**2.0000e-005**	**4.2800e-003**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**						**2.9698**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0234	0.0116	0.1099	3.0000e-005	7.0000e-005	8.0000e-005	1.4000e-004	2.0000e-005	7.0000e-005	9.0000e-005						2.9603
Unmitigated	0.0234	0.0116	0.1099	3.0000e-005	7.0000e-005	8.0000e-005	1.4000e-004	2.0000e-005	7.0000e-005	9.0000e-005						2.9603

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	122.57	122.57	122.57	178	178
Total	122.57	122.57	122.57	178	178

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.575564	0.056293	0.184251	0.115043	0.020151	0.005257	0.008159	0.006240	0.000877	0.000356	0.024310	0.000874	0.002624

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						840.3543
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						840.3543
NaturalGas Mitigated	0.0458	0.4160	0.3494	2.5000e-003		0.0316	0.0316		0.0316	0.0316						455.5127
NaturalGas Unmitigated	0.0458	0.4160	0.3494	2.5000e-003		0.0316	0.0316		0.0316	0.0316						455.5127

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	8.48556e+006	0.0458	0.4160	0.3494	2.5000e-003		0.0316	0.0316		0.0316	0.0316						455.5127
Total		**0.0458**	**0.4160**	**0.3494**	**2.5000e-003**		**0.0316**	**0.0316**		**0.0316**	**0.0316**						**455.5127**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	8.48556e+006	0.0458	0.4160	0.3494	2.5000e-003		0.0316	0.0316		0.0316	0.0316						455.5127
Total		**0.0458**	**0.4160**	**0.3494**	**2.5000e-003**		**0.0316**	**0.0316**		**0.0316**	**0.0316**						**455.5127**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	8.99365e+006				840.3543
Total					**840.3543**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	8.99365e+006				840.3543
Total					**840.3543**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3533	4.0000e-005	4.8000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.9700e-003
Unmitigated	2.3533	4.0000e-005	4.8000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.9700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3072					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	2.0457					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	4.4000e-004	4.0000e-005	4.8000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.9700e-003
Total	**2.3533**	**4.0000e-005**	**4.8000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**						**9.9700e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3072					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	2.0457					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	4.4000e-004	4.0000e-005	4.8000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005						9.9700e-003
Total	**2.3533**	**4.0000e-005**	**4.8000e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**						**9.9700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				0.9123
Unmitigated				1.5184

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.81158 / 0.01029				1.5184
Total					**1.5184**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.487597 / 0.006174				0.9123
Total					**0.9123**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				0.1353
Unmitigated				0.1353

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0.269				0.1353
Total					**0.1353**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0.269				0.1353
Total					**0.1353**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated				-74.3475

Microsoft SJC04 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	21.25 / 4				-74.3475
Total					**-74.3475**

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Microsoft SJC06

Santa Clara County, Annual

Table AQ4-4

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	308.30	1000sqft	2.50	308,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2029
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SJC06 is Phase 2 of the Microsift Data Center project. Per data supplied by the applicant (text and drawings), SJC06 will only encompass the construction of Bldg #2. SJC04 (Bldb#1) as well as
a majority of the onsite support areas, i.e., electrical substation, water storage area, tank support bldg, etc.) will be constructed in the first phase. In addition, note that the off-site reclaim water line wil also be constructed in phase 1 (SJC04).

Land Use - SJC06 (Bldg #2) is rated at 308300 sq.ft. The size of the bldg parcel will be approximately 2.5 acres of the total site size of 21.25 acres. SJC04 and SJC06 are essentially identical buildings, and as such each building has an approximate footprint of 77100 sq.ft.

Construction Phase - Same basic comments as SJC04 phase.

Off-road Equipment - No demo phase for SJC06

Off-road Equipment - Same basic comments as SJC04

Off-road Equipment - Same basic comments as SJC04.

Off-road Equipment - Same basic comments as SJC04.

Off-road Equipment - Same basic comments as SJC04.

Off-road Equipment - Same basic comments as SJC04.

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - Same basic comments as SJC04.
1 pass on grading for Site Prep.
2 passes during the grading phase, since most of the grading work was accomplished in SJC04.
No cut/fill activity in SJC06.

Demolition - No demo during SJC06.

Trips and VMT - Same basic comments as SJC04. Grading will not require any cut/fill haul trips due to site finishing accomplished in SJC04 phase.

Architectural Coating - Same comments as SJC04.

Vehicle Trips - Same basic comments as SJC04.

Road Dust - No Unpaved roads wil service the site during operations.

Woodstoves - Same comments as SJC04.

Area Coating - SJC06 parking area, same basic sq.ft. as SJC04, scaled from project drawings.

Energy Use - 48 MW data center. Same commetns as SJC04.

Water And Wastewater - SJC06 is the same as SJC04 with respect to water use rates and sources.

Solid Waste - Same as SJC04.

Land Use Change - This calculation was done for the entire site as part of SJC04.

Construction Off-road Equipment Mitigation - Same comments as SJC04. No Unpaved roads will service the site during construction or operation.

Area Mitigation - Same comments as SJC04.

Water Mitigation - Same comments as SJC04.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	0.00	98,000.00
tblAreaCoating	Area_Parking	0	98000
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	220.00	414.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	6.00	76.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	3.00	32.00
tblConstructionPhase	PhaseEndDate	6/22/2023	5/31/2028
tblConstructionPhase	PhaseEndDate	5/25/2023	3/31/2028

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	PhaseEndDate	7/8/2022	3/31/2026
tblConstructionPhase	PhaseEndDate	7/21/2022	8/31/2026
tblConstructionPhase	PhaseEndDate	6/8/2023	5/31/2028
tblConstructionPhase	PhaseEndDate	7/13/2022	5/16/2026
tblConstructionPhase	PhaseStartDate	6/9/2023	4/1/2028
tblConstructionPhase	PhaseStartDate	7/22/2022	9/1/2026
tblConstructionPhase	PhaseStartDate	6/13/2022	4/1/2026
tblConstructionPhase	PhaseStartDate	7/14/2022	5/17/2026
tblConstructionPhase	PhaseStartDate	5/26/2023	4/1/2028
tblConstructionPhase	PhaseStartDate	7/9/2022	4/2/2026
tblGrading	AcresOfGrading	37.05	5.00
tblGrading	AcresOfGrading	30.80	2.50
tblLandUse	LotAcreage	7.08	2.50
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	7.40
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	3.40
tblOffRoadEquipment	UsageHours	7.00	3.30
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	8.00	7.70
tblOffRoadEquipment	UsageHours	8.00	7.40
tblOffRoadEquipment	UsageHours	8.00	6.50
tblOffRoadEquipment	UsageHours	8.00	7.40
tblOffRoadEquipment	UsageHours	8.00	4.70
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	2.90
tblOffRoadEquipment	UsageHours	7.00	4.70
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	6.50
tblOffRoadEquipment	UsageHours	8.00	3.90
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblSolidWaste	SolidWasteGenerationRate	286.72	0.27

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	HaulingTripNumber	0.00	3,570.00
tblTripsAndVMT	HaulingTripNumber	0.00	61.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	51.00	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	ST_TR	2.21	0.23
tblVehicleTrips	SU_TR	0.70	0.23
tblVehicleTrips	WD_TR	9.74	0.23
tblWater	IndoorWaterUseRate	54,795,314.51	811,580.00
tblWater	OutdoorWaterUseRate	33,584,225.02	10,293.00

2.0 Emissions Summary

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.1083	0.9750	1.1383	2.4200e-003	0.2789	0.0413	0.3202	0.1381	0.0381	0.1762						218.0208
2027	0.1164	0.9659	1.2676	3.0500e-003	0.1216	0.0382	0.1598	0.0325	0.0355	0.0680						279.7228
2028	1.9992	0.4201	0.6258	1.2800e-003	0.0359	0.0176	0.0535	9.6000e-003	0.0165	0.0261						115.9243
Maximum	**1.9992**	**0.9750**	**1.2676**	**3.0500e-003**	**0.2789**	**0.0413**	**0.3202**	**0.1381**	**0.0381**	**0.1762**						**279.7228**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2026	0.0351	0.1770	1.3362	2.4200e-003	0.1518	3.6600e-003	0.1554	0.0691	3.6300e-003	0.0728						218.0206
2027	0.0491	0.3080	1.3918	3.0500e-003	0.1216	4.2800e-003	0.1259	0.0325	4.1900e-003	0.0367						279.7226
2028	1.9674	0.1216	0.6969	1.2800e-003	0.0359	1.8500e-003	0.0378	9.6000e-003	1.8200e-003	0.0114						115.9242
Maximum	**1.9674**	**0.3080**	**1.3918**	**3.0500e-003**	**0.1518**	**4.2800e-003**	**0.1554**	**0.0691**	**4.1900e-003**	**0.0728**						**279.7226**

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.75**	**74.31**	**-12.97**	**0.00**	**29.14**	**89.92**	**40.20**	**38.25**	**89.30**	**55.26**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
16	**3-13-2026**	**6-12-2026**	0.3586	0.0415
17	**6-13-2026**	**9-12-2026**	0.3976	0.0608
18	**9-13-2026**	**12-12-2026**	0.2717	0.0911
19	**12-13-2026**	**3-12-2027**	0.2684	0.0898
20	**3-13-2027**	**6-12-2027**	0.2717	0.0891
21	**6-13-2027**	**9-12-2027**	0.2711	0.0885
22	**9-13-2027**	**12-12-2027**	0.2706	0.0899
23	**12-13-2027**	**3-12-2028**	0.2704	0.0898
24	**3-13-2028**	**6-12-2028**	2.2355	2.0462
		Highest	2.2355	2.0462

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3992	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003
Energy	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						762.7258
Mobile	0.0125	6.3500e-003	0.0611	2.0000e-005	4.0000e-005	4.0000e-005	8.0000e-005	1.0000e-005	4.0000e-005	5.0000e-005						1.6472
Waste						0.0000	0.0000		0.0000	0.0000						0.1353
Water						0.0000	0.0000		0.0000	0.0000						1.5184
Total	**1.4386**	**0.2512**	**0.2696**	**1.4900e-003**	**4.0000e-005**	**0.0187**	**0.0187**	**1.0000e-005**	**0.0187**	**0.0187**						**766.0325**

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3992	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003
Energy	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						762.7258
Mobile	0.0125	6.3500e-003	0.0611	2.0000e-005	4.0000e-005	4.0000e-005	8.0000e-005	1.0000e-005	4.0000e-005	5.0000e-005						1.6472
Waste						0.0000	0.0000		0.0000	0.0000						0.1353
Water						0.0000	0.0000		0.0000	0.0000						0.9123
Total	**1.4386**	**0.2512**	**0.2696**	**1.4900e-003**	**4.0000e-005**	**0.0187**	**0.0187**	**1.0000e-005**	**0.0187**	**0.0187**						**765.4264**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	0.0000
Total	**0.0000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/1/2026	3/31/2026	5	0	No Demo phase
2	Site Preparation	Site Preparation	4/2/2026	5/16/2026	5	32	
3	Grading	Grading	5/17/2026	8/31/2026	5	76	
4	Building Construction	Building Construction	9/1/2026	3/31/2028	5	414	
5	Paving	Paving	4/1/2028	5/31/2028	5	43	
6	Architectural Coating	Architectural Coating	4/1/2028	5/31/2028	5	43	

Acres of Grading (Site Preparation Phase): 2.5

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 462,450; Non-Residential Outdoor: 154,150; Striped Parking Area: 98,000 (Architectural Coating – sqft)

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	2	7.40	78	0.48
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Cranes	1	3.40	231	0.29
Building Construction	Forklifts	3	3.30	89	0.20
Building Construction	Generator Sets	1	0.60	84	0.74
Grading	Graders	1	3.10	187	0.41
Site Preparation	Graders	1	7.70	187	0.41
Paving	Pavers	1	7.40	130	0.42
Paving	Paving Equipment	2	6.50	132	0.36
Paving	Rollers	1	7.40	80	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	1	4.70	247	0.40
Site Preparation	Scrapers	0	0.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	2	2.90	97	0.37
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	4.70	97	0.37
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	6.50	97	0.37
Building Construction	Welders	1	3.90	46	0.45
Site Preparation	Rubber Tired Dozers	1	7.70	247	0.40
Site Preparation	Other Construction Equipment	1	7.70	172	0.42
Grading	Excavators	2	6.20	158	0.38
Grading	Other Construction Equipment	1	7.90	172	0.42
Building Construction	Other Construction Equipment	1	5.80	172	0.42
Architectural Coating	Aerial Lifts	1	7.40	63	0.31

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	3	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	99.00	0.00	3,570.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	61.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0941	0.0000	0.0941	0.0511	0.0000	0.0511						0.0000
Off-Road	0.0209	0.2136	0.1600	3.7000e-004		9.0100e-003	9.0100e-003		8.2900e-003	8.2900e-003						32.4561
Total	**0.0209**	**0.2136**	**0.1600**	**3.7000e-004**	**0.0941**	**9.0100e-003**	**0.1031**	**0.0511**	**8.2900e-003**	**0.0594**						**32.4561**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.4000e-004	8.0000e-005	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005						0.1484
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.3000e-004	2.0000e-004	2.9500e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004						0.8840
Total	**3.4000e-004**	**5.4000e-004**	**3.0300e-003**	**1.0000e-005**	**1.3100e-003**	**1.0000e-005**	**1.3200e-003**	**3.5000e-004**	**1.0000e-005**	**3.5000e-004**						**1.0324**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0423	0.0000	0.0423	0.0230	0.0000	0.0230						0.0000
Off-Road	4.5000e-003	0.0195	0.2064	3.7000e-004		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004						32.4561
Total	**4.5000e-003**	**0.0195**	**0.2064**	**3.7000e-004**	**0.0423**	**6.0000e-004**	**0.0429**	**0.0230**	**6.0000e-004**	**0.0236**						**32.4561**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.4000e-004	8.0000e-005	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005						0.1484
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	3.3000e-004	2.0000e-004	2.9500e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2700e-003	3.4000e-004	1.0000e-005	3.4000e-004						0.8840
Total	**3.4000e-004**	**5.4000e-004**	**3.0300e-003**	**1.0000e-005**	**1.3100e-003**	**1.0000e-005**	**1.3200e-003**	**3.5000e-004**	**1.0000e-005**	**3.5000e-004**						**1.0324**

3.4 Grading - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1371	0.0000	0.1371	0.0742	0.0000	0.0742						0.0000
Off-Road	0.0459	0.4334	0.5312	9.6000e-004		0.0194	0.0194		0.0178	0.0178						85.2432
Total	**0.0459**	**0.4334**	**0.5312**	**9.6000e-004**	**0.1371**	**0.0194**	**0.1565**	**0.0742**	**0.0178**	**0.0920**						**85.2432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.4300e-003	8.7000e-004	0.0126	4.0000e-005	5.4200e-003	2.0000e-005	5.4500e-003	1.4400e-003	2.0000e-005	1.4600e-003						3.7792
Total	**1.4300e-003**	**8.7000e-004**	**0.0126**	**4.0000e-005**	**5.4200e-003**	**2.0000e-005**	**5.4500e-003**	**1.4400e-003**	**2.0000e-005**	**1.4600e-003**						**3.7792**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0617	0.0000	0.0617	0.0334	0.0000	0.0334						0.0000
Off-Road	0.0118	0.0512	0.6409	9.6000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003						85.2431
Total	**0.0118**	**0.0512**	**0.6409**	**9.6000e-004**	**0.0617**	**1.5800e-003**	**0.0633**	**0.0334**	**1.5800e-003**	**0.0350**						**85.2431**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.4300e-003	8.7000e-004	0.0126	4.0000e-005	5.4200e-003	2.0000e-005	5.4500e-003	1.4400e-003	2.0000e-005	1.4600e-003						3.7792
Total	**1.4300e-003**	**8.7000e-004**	**0.0126**	**4.0000e-005**	**5.4200e-003**	**2.0000e-005**	**5.4500e-003**	**1.4400e-003**	**2.0000e-005**	**1.4600e-003**						**3.7792**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0298	0.2702	0.3389	5.6000e-004		0.0123	0.0123		0.0114	0.0114						48.9264
Total	**0.0298**	**0.2702**	**0.3389**	**5.6000e-004**		**0.0123**	**0.0123**		**0.0114**	**0.0114**						**48.9264**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.8000e-004	0.0509	0.0121	2.2000e-004	6.4400e-003	4.2000e-004	6.8600e-003	1.7700e-003	4.0000e-004	2.1700e-003						22.5162
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	9.1000e-003	5.5700e-003	0.0804	2.6000e-004	0.0346	1.5000e-004	0.0347	9.1900e-003	1.4000e-004	9.3200e-003						24.0674
Total	**9.8800e-003**	**0.0564**	**0.0925**	**4.8000e-004**	**0.0410**	**5.7000e-004**	**0.0416**	**0.0110**	**5.4000e-004**	**0.0115**						**46.5836**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.1300e-003	0.0484	0.3808	5.6000e-004		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004						48.9263
Total	**7.1300e-003**	**0.0484**	**0.3808**	**5.6000e-004**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**						**48.9263**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.8000e-004	0.0509	0.0121	2.2000e-004	6.4400e-003	4.2000e-004	6.8600e-003	1.7700e-003	4.0000e-004	2.1700e-003						22.5162
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	9.1000e-003	5.5700e-003	0.0804	2.6000e-004	0.0346	1.5000e-004	0.0347	9.1900e-003	1.4000e-004	9.3200e-003						24.0674
Total	**9.8800e-003**	**0.0564**	**0.0925**	**4.8000e-004**	**0.0410**	**5.7000e-004**	**0.0416**	**0.0110**	**5.4000e-004**	**0.0115**						**46.5836**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0885	0.8014	1.0052	1.6700e-003		0.0366	0.0366		0.0339	0.0339						145.1111
Total	**0.0885**	**0.8014**	**1.0052**	**1.6700e-003**		**0.0366**	**0.0366**		**0.0339**	**0.0339**						**145.1111**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-003	0.1493	0.0360	6.3000e-004	0.0191	1.2300e-003	0.0203	5.2500e-003	1.1800e-003	6.4300e-003						65.2621
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	0.0256	0.0152	0.2264	7.5000e-004	0.1025	4.1000e-004	0.1029	0.0273	3.8000e-004	0.0276						69.3495
Total	**0.0279**	**0.1645**	**0.2624**	**1.3800e-003**	**0.1216**	**1.6400e-003**	**0.1232**	**0.0325**	**1.5600e-003**	**0.0341**						**134.6117**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0212	0.1435	1.1294	1.6700e-003		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003						145.1109
Total	**0.0212**	**0.1435**	**1.1294**	**1.6700e-003**		**2.6300e-003**	**2.6300e-003**		**2.6300e-003**	**2.6300e-003**						**145.1109**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-003	0.1493	0.0360	6.3000e-004	0.0191	1.2300e-003	0.0203	5.2500e-003	1.1800e-003	6.4300e-003						65.2621
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	0.0256	0.0152	0.2264	7.5000e-004	0.1025	4.1000e-004	0.1029	0.0273	3.8000e-004	0.0276						69.3495
Total	**0.0279**	**0.1645**	**0.2624**	**1.3800e-003**	**0.1216**	**1.6400e-003**	**0.1232**	**0.0325**	**1.5600e-003**	**0.0341**						**134.6117**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0220	0.1996	0.2503	4.2000e-004		9.1100e-003	9.1100e-003		8.4500e-003	8.4500e-003						36.1388
Total	**0.0220**	**0.1996**	**0.2503**	**4.2000e-004**		**9.1100e-003**	**9.1100e-003**		**8.4500e-003**	**8.4500e-003**						**36.1388**

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0369	8.9800e-003	1.5000e-004	4.7600e-003	3.0000e-004	5.0600e-003	1.3100e-003	2.9000e-004	1.6000e-003						15.8744
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	6.0600e-003	3.5000e-003	0.0539	1.8000e-004	0.0255	1.0000e-004	0.0256	6.7900e-003	9.0000e-005	6.8800e-003						16.8176
Total	**6.6300e-003**	**0.0404**	**0.0629**	**3.3000e-004**	**0.0303**	**4.0000e-004**	**0.0307**	**8.1000e-003**	**3.8000e-004**	**8.4800e-003**						**32.6920**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.2700e-003	0.0357	0.2813	4.2000e-004		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004						36.1387
Total	**5.2700e-003**	**0.0357**	**0.2813**	**4.2000e-004**		**6.6000e-004**	**6.6000e-004**		**6.6000e-004**	**6.6000e-004**						**36.1387**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0369	8.9800e-003	1.5000e-004	4.7600e-003	3.0000e-004	5.0600e-003	1.3100e-003	2.9000e-004	1.6000e-003						15.8744
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	6.0600e-003	3.5000e-003	0.0539	1.8000e-004	0.0255	1.0000e-004	0.0256	6.7900e-003	9.0000e-005	6.8800e-003						16.8176
Total	**6.6300e-003**	**0.0404**	**0.0629**	**3.3000e-004**	**0.0303**	**4.0000e-004**	**0.0307**	**8.1000e-003**	**3.8000e-004**	**8.4800e-003**						**32.6920**

3.6 Paving - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0113	0.1044	0.1833	2.9000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003						25.4948
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**0.0113**	**0.1044**	**0.1833**	**2.9000e-004**		**5.1000e-003**	**5.1000e-003**		**4.6900e-003**	**4.6900e-003**						**25.4948**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	4.0100e-003	9.8000e-004	2.0000e-005	5.2000e-004	3.0000e-005	5.5000e-004	1.4000e-004	3.0000e-005	1.7000e-004						1.7276
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.0000e-004	2.3000e-004	3.6000e-003	1.0000e-005	1.7100e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004						1.1238
Total	**4.6000e-004**	**4.2400e-003**	**4.5800e-003**	**3.0000e-005**	**2.2300e-003**	**4.0000e-005**	**2.2600e-003**	**5.9000e-004**	**4.0000e-005**	**6.3000e-004**						**2.8514**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5500e-003	0.0154	0.2187	2.9000e-004		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004						25.4948
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**3.5500e-003**	**0.0154**	**0.2187**	**2.9000e-004**		**4.7000e-004**	**4.7000e-004**		**4.7000e-004**	**4.7000e-004**						**25.4948**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	4.0100e-003	9.8000e-004	2.0000e-005	5.2000e-004	3.0000e-005	5.5000e-004	1.4000e-004	3.0000e-005	1.7000e-004						1.7276
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	4.0000e-004	2.3000e-004	3.6000e-003	1.0000e-005	1.7100e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004						1.1238
Total	**4.6000e-004**	**4.2400e-003**	**4.5800e-003**	**3.0000e-005**	**2.2300e-003**	**4.0000e-005**	**2.2600e-003**	**5.9000e-004**	**4.0000e-005**	**6.3000e-004**						**2.8514**

3.7 Architectural Coating - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9483					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	9.7300e-003	0.0710	0.1175	1.9000e-004		2.9100e-003	2.9100e-003		2.8900e-003	2.8900e-003						16.4997
Total	**1.9580**	**0.0710**	**0.1175**	**1.9000e-004**		**2.9100e-003**	**2.9100e-003**		**2.8900e-003**	**2.8900e-003**						**16.4997**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	8.1000e-004	4.7000e-004	7.2000e-003	2.0000e-005	3.4100e-003	1.0000e-005	3.4200e-003	9.1000e-004	1.0000e-005	9.2000e-004						2.2476
Total	**8.1000e-004**	**4.7000e-004**	**7.2000e-003**	**2.0000e-005**	**3.4100e-003**	**1.0000e-005**	**3.4200e-003**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**						**2.2476**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9483					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	2.3900e-003	0.0255	0.1224	1.9000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004						16.4997
Total	**1.9507**	**0.0255**	**0.1224**	**1.9000e-004**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**						**16.4997**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	8.1000e-004	4.7000e-004	7.2000e-003	2.0000e-005	3.4100e-003	1.0000e-005	3.4200e-003	9.1000e-004	1.0000e-005	9.2000e-004						2.2476
Total	**8.1000e-004**	**4.7000e-004**	**7.2000e-003**	**2.0000e-005**	**3.4100e-003**	**1.0000e-005**	**3.4200e-003**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**						**2.2476**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0125	6.3500e-003	0.0611	2.0000e-005	4.0000e-005	4.0000e-005	8.0000e-005	1.0000e-005	4.0000e-005	5.0000e-005						1.6472
Unmitigated	0.0125	6.3500e-003	0.0611	2.0000e-005	4.0000e-005	4.0000e-005	8.0000e-005	1.0000e-005	4.0000e-005	5.0000e-005						1.6472

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	72.14	72.14	72.14	105	105
Total	72.14	72.14	72.14	105	105

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	0.00	0.00	0.00	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.576787	0.056660	0.182855	0.114996	0.020142	0.005351	0.008206	0.006159	0.000860	0.000342	0.024243	0.000849	0.002550

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						494.6186
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						494.6186
NaturalGas Mitigated	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072
NaturalGas Unmitigated	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	4.99446e+006	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072
Total		**0.0269**	**0.2448**	**0.2057**	**1.4700e-003**		**0.0186**	**0.0186**		**0.0186**	**0.0186**						**268.1072**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	4.99446e+006	0.0269	0.2448	0.2057	1.4700e-003		0.0186	0.0186		0.0186	0.0186						268.1072
Total		**0.0269**	**0.2448**	**0.2057**	**1.4700e-003**		**0.0186**	**0.0186**		**0.0186**	**0.0186**						**268.1072**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	5.29351e+006				494.6186
Total					**494.6186**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	5.29351e+006				494.6186
Total					**494.6186**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3992	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003
Unmitigated	1.3992	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1948					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.2041					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.6000e-004	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003
Total	**1.3992**	**3.0000e-005**	**2.8300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**5.8700e-003**

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1948					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	1.2041					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.6000e-004	3.0000e-005	2.8300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						5.8700e-003
Total	**1.3992**	**3.0000e-005**	**2.8300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**5.8700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				0.9123
Unmitigated				1.5184

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.81158 / 0.010293				1.5184
Total					**1.5184**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.487597 / 0.0061758				0.9123
Total					**0.9123**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				0.1353
Unmitigated				0.1353

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0.269				0.1353
Total					**0.1353**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0.269				0.1353
Total					**0.1353**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated				0.0000

Microsoft SJC06 - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Others	0 / 0				0.0000
Total					**0.0000**

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

MSDC Reclaim Water Line

Santa Clara County, Annual

Table AQ4-5

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	15.84	1000sqft	2.73	15,840.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Analysis is for the offsite reclaim water line construction only. No operational emissions are calculated.

Land Use - Trench assumed sfc area =~15840 sq,ft. Corridor assumed sfc area is 2.73 acres.

Construction Phase - Best estimate of water line construction time.

Off-road Equipment - Best estimate of equipment and use rates.

Grading - No cut and fill hauling will occur. Trench cut material will be placed back into the trench subsequent to line installation.

Demolition - No demolition will occur.

Trips and VMT - Assumed 8000 ft of piping required (which includes the end stubs and connectors), avg section length is 25 ft. Total sections required =~ 320.
Assumed 40 sections per delivery.
Total haul deliveries = 8.
Worker trips calculated by CalEEMod.

On-road Fugitive Dust - Defaults used.

Architectural Coating - No coatings required.

Vehicle Trips - No operational vehicle trips are required.

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Fleet Mix - No operational vehicle trips are required.

Road Dust - No Unpaved roads will service the pipeline subsequent to installation.

Consumer Products - No consumer products required for pipeline operations.

Area Coating - No arch coatings required for pipleine operations.

Landscape Equipment - No landscaping req'd for pipeline operations.

Energy Use - Reclaim water pumping energy is included inthe SJC04 analysis.

Water And Wastewater - See SJC04 analysis.

Solid Waste - No solid waste generationf or water pipeline.

Construction Off-road Equipment Mitigation - Same mitigation as SJCO4.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	7920	0
tblAreaCoating	Area_Nonresidential_Interior	23760	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	PhaseEndDate	4/10/2025	7/4/2025
tblConstructionPhase	PhaseStartDate	4/3/2025	3/1/2025
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	3.08	0.00

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.32	0.00
tblEnergyUse	T24NG	19.51	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblLandUse	LotAcreage	0.36	2.73
tblOffRoadEquipment	HorsePower	158.00	187.00
tblOffRoadEquipment	HorsePower	89.00	247.00
tblOffRoadEquipment	LoadFactor	0.38	0.41
tblOffRoadEquipment	LoadFactor	0.20	0.40
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	SolidWasteGenerationRate	19.64	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	59.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	WD_TR	3.93	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	100.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	3,663,000.00	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.0239	0.1953	0.2579	6.5000e-004	4.7100e-003	8.0600e-003	0.0128	1.2500e-003	7.4200e-003	8.6700e-003						57.5940
Maximum	**0.0239**	**0.1953**	**0.2579**	**6.5000e-004**	**4.7100e-003**	**8.0600e-003**	**0.0128**	**1.2500e-003**	**7.4200e-003**	**8.6700e-003**						**57.5940**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	8.7900e-003	0.0338	0.3571	6.5000e-004	4.7100e-003	1.0200e-003	5.7300e-003	1.2500e-003	1.0200e-003	2.2700e-003						57.5939
Maximum	**8.7900e-003**	**0.0338**	**0.3571**	**6.5000e-004**	**4.7100e-003**	**1.0200e-003**	**5.7300e-003**	**1.2500e-003**	**1.0200e-003**	**2.2700e-003**						**57.5939**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**63.21**	**82.68**	**-38.45**	**0.00**	**0.00**	**87.34**	**55.13**	**0.00**	**86.25**	**73.82**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2025	5-31-2025	0.1601	0.0311
2	6-1-2025	8-31-2025	0.0591	0.0115
		Highest	0.1601	0.0311

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Waste						0.0000	0.0000		0.0000	0.0000						0.0000
Water						0.0000	0.0000		0.0000	0.0000						0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**						**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Waste						0.0000	0.0000		0.0000	0.0000						0.0000
Water						0.0000	0.0000		0.0000	0.0000						0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**						**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching, pipe install, finishing	Trenching	3/1/2025	7/4/2025	5	90	Water line construction

Acres of Grading (Site Preparation Phase): 0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching, pipe install, finishing	Rollers	1	1.80	80	0.38
Trenching, pipe install, finishing	Other Construction Equipment	1	2.80	172	0.42
Trenching, pipe install, finishing	Excavators	1	6.20	187	0.41
Trenching, pipe install, finishing	Forklifts	1	3.10	247	0.40
Trenching, pipe install, finishing	Tractors/Loaders/Backhoes	1	6.20	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching, pipe install, finishing	5	13.00	0.00	8.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching, pipe install, finishing - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0226	0.1939	0.2464	6.1000e-004		8.0400e-003	8.0400e-003		7.3900e-003	7.3900e-003						54.0177
Total	**0.0226**	**0.1939**	**0.2464**	**6.1000e-004**		**8.0400e-003**	**8.0400e-003**		**7.3900e-003**	**7.3900e-003**						**54.0177**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.4000e-004	1.3000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005						0.2423
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.2900e-003	8.2000e-004	0.0114	4.0000e-005	4.6400e-003	2.0000e-005	4.6600e-003	1.2300e-003	2.0000e-005	1.2500e-003						3.3339
Total	**1.3000e-003**	**1.3600e-003**	**0.0116**	**4.0000e-005**	**4.7100e-003**	**2.0000e-005**	**4.7300e-003**	**1.2500e-003**	**2.0000e-005**	**1.2700e-003**						**3.5762**

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Trenching, pipe install, finishing - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4900e-003	0.0325	0.3455	6.1000e-004		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003						54.0177
Total	**7.4900e-003**	**0.0325**	**0.3455**	**6.1000e-004**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**						**54.0177**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.4000e-004	1.3000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005						0.2423
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.2900e-003	8.2000e-004	0.0114	4.0000e-005	4.6400e-003	2.0000e-005	4.6600e-003	1.2300e-003	2.0000e-005	1.2500e-003						3.3339
Total	**1.3000e-003**	**1.3600e-003**	**0.0116**	**4.0000e-005**	**4.7100e-003**	**2.0000e-005**	**4.7300e-003**	**1.2500e-003**	**2.0000e-005**	**1.2700e-003**						**3.5762**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.574685	0.056097	0.185093	0.115164	0.020188	0.005209	0.008091	0.006312	0.000884	0.000364	0.024358	0.000887	0.002668

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0				0.0000
Total					**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0				0.0000
Total					**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**						**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				0.0000
Unmitigated				0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0				0.0000
Total					**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0				0.0000
Total					**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				0.0000
Unmitigated				0.0000

MSDC Reclaim Water Line - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0				0.0000
Total					**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0				0.0000
Total					**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation


4137550
4137500
4137450
4137400
4137350
4137300
4137250
4137200
UTM Northing (m, NAD83, Zone 10)
594150
594200
594250
594300
594350
594400
594450
594500
594550
594600
594650
594700
594750
594800
594850
UTM Easting (m, NAD83, Zone 10)
SECTION D (IND)
ORCHARD PARKWAY
COMPONENT DRIVE
GUADALUPE RIVER

Appendix AQ-5

Risk Assessment Support Data

Table AQ5-1 Sensitive Receptors and Distances from Site

(all sites and coordinates from Google Earth unless otherwise noted) Image Date: Sept 2020

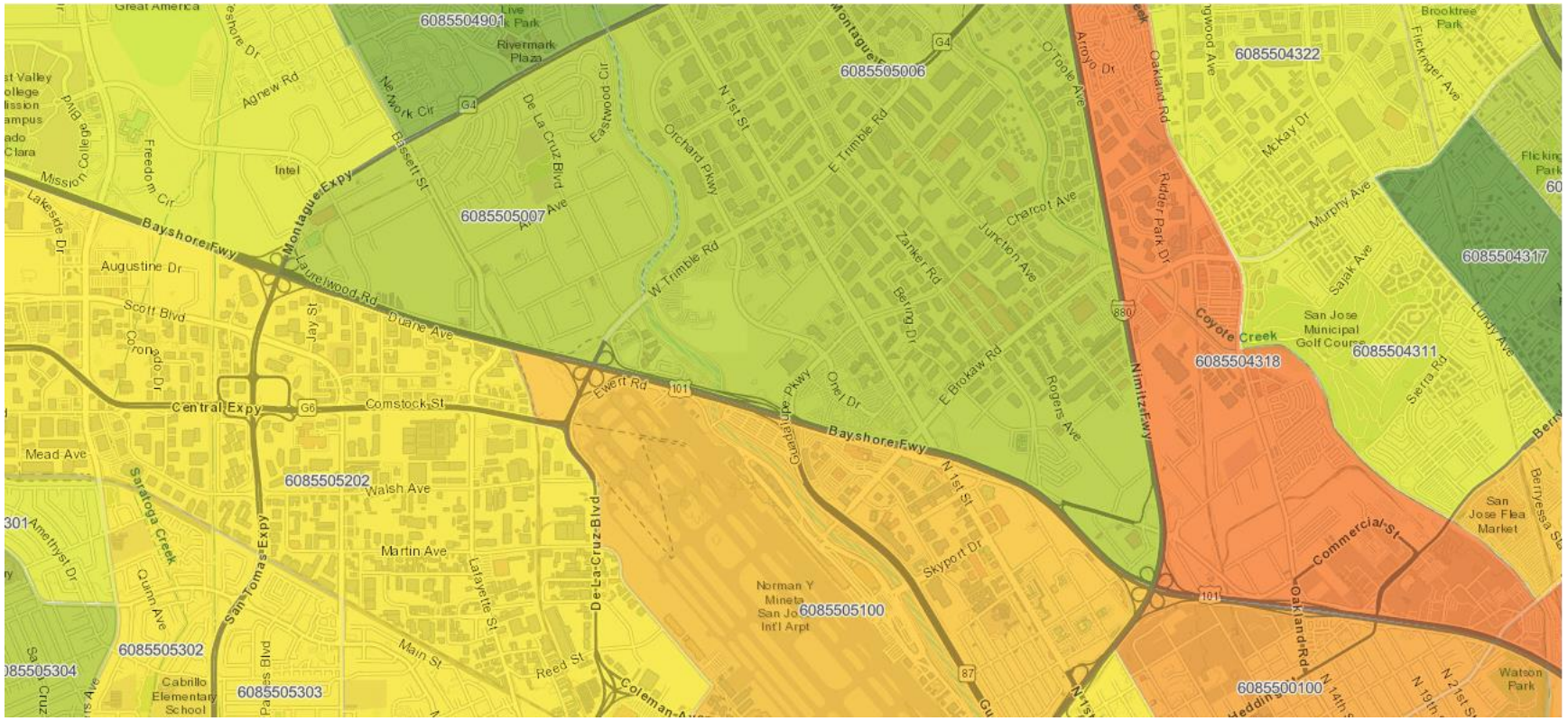
Microsoft Data Center

Receptor ID	UTM Em	UTM Nm	Distance from Stack Mid-point meters	feet	miles
Site (approx. mid-point)	**594479.00**	**4137366.00**	na	na	
School	593427.00	4138428.00	1494.8	4904.3	0.93
Residences	593272.00	4138238.00	1489.0	4885.3	0.93
Residences	593043.00	4136927.00	1501.6	4926.5	0.93
Worker	594615.00	4137225.00	195.9	642.7	0.12
Worker	594376.00	4137506.00	173.8	570.2	0.11
Worker	594179.00	4137176.00	355.1	1165.0	0.22
Residences	596126.00	4135608.00	2409.0	7903.5	1.50
Residences	596351.00	4135774.00	2457.4	8062.4	1.53
Apartments	596327.00	4136003.00	2296.3	7533.7	1.43
Apartments	596035.00	4136253.00	1913.1	6276.5	1.19
College	590092.00	4138749.00	4599.8	15091.3	2.86
Apartments	596387.00	4136788.00	1993.6	6540.8	1.24

There were no identified hospitals, convalescent care facilities, daycare centers, etc., within 1000 ft. of the facility boundary.

This list represents identified sensitive receptors that are located close to the site. It should not be assumed that the PMI, MEIR or MEIW will be a receptor on this list. These important HRA locations will be determined from the modeling grid and HRA output. With respect to the MEIS, this location will most likely be one of the receptors on the above list, since the list contains the identified nearfield schools.

Figure AQ5-1 CalEnviroScreen 4.0 Area Surrounding MBGF/SJC04/06



(See Table AQ5-2)

Table AQ5-2

CalEnviroScreen Survey Results

Area ID #	Direction from Site	Distance from Site, ft.	%tile Rating
Site 6085505007	NA	NA	39%
6085504318	East	8200	80%
6085505100	South*	750	69%
6085505202	West/Southwest	3400	60%
6085505001	Northwest	6700	44%
6085505901	North	6300	25%

*San Jose Int'l Airport

All distances scaled form Google Earth image on 6/15/2022.

Plant#	Plant Name	Address	City	St	Zip	County	UTM_E (km)	UTM_N (km)	Cancer_2018	Hazard_20	PM2.5_20	Type
17437	Lumileds LLC	370 W Trimble Road	San Jose	CA	95131	Santa Clara	594395	4137625	101.5270001	1.120325	2.508815	(3) Boilers, (1) Solvent Storage Tank, (1) Fuel Storage Tank
18923	City of San Jose Municipal Water	491 W Trimble Road	San Jose	CA	95131	Santa Clara	594028.1473	4137627.175	0.25390481	6.82E-05	0.000649	Generators
19141	SJC Fuel Company, LLC	2500 Seaboard Avenue	San Jose	CA	95131	Santa Clara	594247	4137154	9.506992776	0.019027	0.012002	Generators
23091	SteelWave	Component Dr & Orchard Pkv	San Jose	CA	95131	Santa Clara	594633	4137188	1.208170156	0.002435	0.001544	Generators
200515	Apple Inc.	2325 ORCHARD PKWY	SAN JOSE	CA	95131	Santa Clara	594952.0703	4137240.986	0.79300662	0.000213	0.000998	Generators
13367-10	San Jose International Airport	1701 Airport Blvd	San Jose	CA	95112	Santa Clara	594430.6	4136957.78	8.809782889	0.013635	0.011233	Generators
13367-11	San Jose International Airport	1701 Airport Blvd	San Jose	CA	95112	Santa Clara	594430.6	4136957.78	187.5966399	0.290349	0.239204	Generators
104171	ConocoPhillips #256429	2591 Seaboard Ave	San Jose	CA	95131	Santa Clara	593895.6361	4137446.528	20.78426	0.09149		Gas Dispensing Facility