

DOCKETED

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RESPONSE TO CEC STAFF DATA REQUEST SET 3 (106-118)

Sequoia Backup Generating Facility (19-SPPE-03)

SUBMITTED TO: CALIFORNIA ENERGY COMMISSION

SUBMITTED BY: **C1-Santa Clara, LLC**

December 2019



INTRODUCTION

Attached are C1-Santa Clara, LLC's (C1) responses to California Energy Commission (CEC) Staff Data Request Set No. 3 (106-118) for the Sequoia Backup Generation Facility (SBGF) Application for Small Power Plant Exemption (SPPE) (19-SPPE-03). Staff issued Data Request Set No. 3 on December 6, 2019.

The Data Responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as Staff presented them and are keyed to the Data Request numbers (106-118). Additional tables, figures, or documents submitted in response to a data request (e.g., supporting data, stand-alone documents such as plans, folding graphics, etc.) are found at the end each data response and are not sequentially page-numbered consistently with the remainder of this document, although they may have their own internal page numbering system.

For context the text of the Background and Data Request precede each Data Response.

GENERAL OBJECTIONS

C1 objects to all data requests that require analysis beyond which is necessary to comply with the California Environmental Quality Act (CEQA) or which requires C1 to provide data that is in the control of third parties and not reasonably available to C1. Notwithstanding this objection, C1 has worked diligently to provide these responses swiftly to allow the CEC Staff to prepare the Initial Study/Mitigated Negative Declaration (IS/MND).

BACKGROUND: Follow-up to Supplemental Response to DR 89 (TN 230893)

On December 2, 2019, the applicant for Sequoia Data Center (SDC) docketed a Supplemental Response to DR 89, TN 230893, an engineering drawing of undergrounded 6,800-gallon fuel storage tanks associated with each proposed genset. The engineering drawing only shows one perspective of the project site, with only seven (7) out of the fifty-four (54) gensets shown in the drawing.

Staff needs to quantify construction emissions associated with undergrounding the genset fuel storage tanks. Staff also needs an updated project description for the underground fuel tanks, including the timeframe for this new construction phase.

Further, Staff needs to verify whether air quality and public health impact modeling would need to be updated to reflect the potentially lower stack heights for the generator engines.

DATA REQUESTS

106. Please provide updated construction emissions of CO, VOCs, NO_x, SO₂, PM₁₀ and PM_{2.5} (including fugitive emissions) associated with the new underground storage tank basin at SDC and compare these totals to the BAAQMD CEQA thresholds.

RESPONSE TO DATA REQUEST 106

Emissions estimates were updated to account for the additional grading for the new underground storage tank basins, using CalEEMod® using the same methodology described in the Air Quality and Greenhouse Gas Technical Report ,which was Appendix F of the Application for Small Power Plant Exemption. Emissions were updated based on the expected equipment activity and truck trips provided by the project contractor and summarized below. The revised emissions estimates also include truck trips for the offhaul of grading materials during the complete grading phase, as discussed in DR 116. The CalEEMod output includes this additional equipment and trucking activity, and is provided in Appendix AIR DR 106.

Equipment Type	Number of Equipment	Horsepower	Days of Use	Average Hours/day of equipment engine operation
Rubber Tired Dozers	1	Default	4	1
Tractors/ Loaders/ Backhoes	2	Default	4	6

Emissions as estimated in CalEEMod are shown below. Emissions are below the BAAQMD Significance Threshold with the addition of the additional activity.

Project Construction	CAP Emissions [lb]			
	ROG	NO _x	Exhaust PM ₁₀	Exhaust PM _{2.5}
Site Preparation	41	425	22	20
Grading (Project Site)	144	1,790	66	61
Grading (Underground Fuel Tanks)	10	294	2	2
Building Construction	1,055	9,831	337	317
Paving	29	259	14	13
Architectural Coating	7,354	33	1.9	1.9
Total	8,633	12,633	442	414
Length of Construction (days)	531			
Average Daily Emissions (lb/day)	16.3	23.8	0.8	0.8
BAAQMD Significance Threshold (lb/day)	54	54	82	54
Construction GHG Emissions (MT CO₂e/project)	1,395 MT CO ₂ e/project			

107. Please identify the construction equipment and number of trucks for hauling excavated material that would be used during construction of the underground fuel storage tank basins and during transportation of excavated material.

RESPONSE TO DATA REQUEST 107

The construction equipment and activity associated with grading the underground fuel storage tank basin is shown in the response to DR 106. The hauling of the excavated material will take 475 truck trips as provided by the project contractor. This activity was incorporated into the CalEEMod® analysis.

108. Please describe the dimensions of the concrete basin that would be necessary for the underground fuel storage tanks, including depth and volume of excavated material.

RESPONSE TO DATA REQUEST 108

Generally the concrete basins are shown on the enlarged site plan drawing included in Appendix PD DR-108 and are 5.2 feet deep. The volume is estimated to be approximately 154,000 cubic feet.

109. Please include an updated project description to include the underground fuel storage tank basins, and the operation and maintenance of the underground basins.

RESPONSE TO DATA REQUEST 109

Please Appendix PD DR 109 for a detailed drawing showing a cross-section and notes describing the concrete basin.

The fuel tanks will be located in a recessed concrete pit with the top of the tank matching adjacent grade. The top of the tank will be covered by the generator and enclosure integral to the generator system. Each tank will be independent of each other and dedicated to a single generator. Tanks will be UL 2085 fire rated constructed of double wall steel and concrete interstitial space. Leak detection will be provided in the interstitial space. High fill alarms will be included and there will be no piping provided between tanks. Personnel platforms will be made between tanks at the bottom of the generator platforms out of galvanized steel or FRP. The concrete basin will be designed to collect storm water with a sump pump.

C1 will update this description with information about inspection of the tanks and maintenance of the concrete pit and sump pumps in a subsequent submittal.

110. Please revise the health risk assessment (HRA) to incorporate the additional construction emissions associated with the underground fuel storage tank basin.

RESPONSE TO DATA REQUEST 110

The construction health risk assessment (HRA) was updated to incorporate the additional construction emissions associated with the underground fuel storage tank basin, using the same methodology described in DR 29.

Emission rates used in the HRA are consistent with those calculated in DR 106 and are shown in the table below.

Project Construction Phase ^{1,2}	Exhaust TOG (hourly)	Exhaust PM ₁₀ (annualized)	Total PM _{2.5} (annualized)
	(g/s)	(g/s)	(g/s)
Site Preparation	0.065	4.75E-04	4.36E-04
Grading (Project Site)	0.071	1.41E-03	1.29E-03
Grading (Underground Fuel Tanks)	0.007	2.29E-05	2.11E-05
Grading (total)	0.078	1.43E-03	1.32E-03
Building Construction	0.064	6.82E-03	6.41E-03
Paving	0.020	2.93E-04	2.69E-04
Architectural Coating	0.0	4.06E-05	4.06E-05
Max Emission Rate	0.078	--	--
Total Emissions	--	0.009	0.008
Modeled Emission Rate	0.078	0.009	0.008

Results of the construction HRA are shown in the table below. Health impacts are below thresholds.

Receptor Type	Cancer Risk (in a million)	Non-cancer Chronic Hazard Index (unitless)	Non-cancer Acute Hazard Index (unitless)	Max PM _{2.5} Concentration (ug/m ³)
Residential	0.113	9.10E-05	9.72E-05	4.26E-04
Soccer Child	0.149	1.20E-04	1.28E-04	5.60E-04
Childcare	0.058	4.67E-05	4.99E-05	2.20E-04
Worker/PMI	0.222	1.18E-02	1.26E-02	5.54E-02
BAAQMD Significance Threshold	10	1	1	0.3

Combined risks for construction and operation are shown in the table below. These health impacts shown below were calculated using methodologies consistent with analyses in response to DR 30.

Receptor Type	Phase	Cancer Risk Impact (in a million)	Non-cancer Chronic Hazard Index (unitless)	Non-cancer Acute Hazard Index (unitless)	Max PM _{2.5} Concentration (ug/m ³)
Residential	Construction	0.113	9.10E-05	9.72E-05	4.260E-04
	Operation	0.19	5.13E-05	0.10	2.56E-04
	Total	0.30	1.42E-04	0.10	6.90E-04
Soccer Child	Construction	0.149	1.20E-04	1.28E-04	5.60E-04
	Operation	0.002	6.24E-05	0.11	3.12E-04
	Total	0.10	1.82E-04	0.11	8.72E-04
Childcare	Construction	0.058	4.67E-05	4.99E-05	2.20E-04
	Operation	0.05	3.25E-05	0.06	1.63E-04
	Total	0.15	7.93E-05	0.06	3.83E-04
Worker	Construction	0.222	1.18E-02	1.26E-02	5.54E-02
	Operation	2.18	7.04E-03	0.54	0.04
	Total	2.40	0.02	0.55	0.10

111. Please submit an updated air quality impacts analysis that includes the emissions during the construction of the underground fuel storage tank basins.

RESPONSE TO DATA REQUEST 111

The air quality impacts analysis was updated to include the additional emissions discussed in DR 106, using the same methodology described in DR 7. A summary of the results is shown in the tables below. More detailed information is provided in Appendix AIR DR-111.

NAAQS Analysis Summary

Pollutant	Averaging Period	Modeled Concentration (µg/m³)	3-Year Average Background Concentrations (µg/m³)	Total Concentrations	NAAQS (µg/m³)
NO ₂	5-year average of 1-Hour Yearly 98th%	171	N/A	171	188
	Annual	28	N/A	28	100
CO	1-Hour	51	2,443	2,494	40,000
	8-Hour	23	1,909	1,931	10,000
SO ₂	5-year average of 1-Hour Yearly 99th%	0.254	6.1	6.4	196
	3-Hour	0.21	9.4	9.6	1,300
PM ₁₀	24-Hour 6th highest over 5 years	0.40	56	56	150
PM ₂₅	5-year average of 24-Hour Yearly 98th%	0.31	31	31	35
	5-year average of annual concentrations	0.058	9.7	9.8	12

CAAQS Analysis Summary

Pollutant	Averaging Period	Modeled Concentration (µg/m³)	Maximum Background Concentrations (µg/m³)	Total Concentrations	CAAQS (µg/m³)
NO ₂	1-Hour Maximum	114	128	242	339
	Annual Maximum	28	N/A	28	57
CO	1-Hour Maximum	51	2,748	2,799	23,000
	8-Hour Maximum	23	2,061	2,084	10,000
SO ₂	1-Hour Maximum	0.267	9.4	9.7	655
	24-Hour Maximum	0.051	2.9	2.9	105
PM ₁₀	24-Hour Maximum	0.49	69	69	50
	Annual Maximum	0.062	21.9	22	20
PM ₂₅	Annual Maximum	0.058	10.6	10.7	12

The conclusions of this revised analysis are the same as described in DR 7. Maximum modeled ambient concentrations, when combined with background concentrations, are

less than the NAAQS and CAAQS for all pollutants, except the 24-hour and annual PM₁₀ CAAQS. The PM₁₀ background concentrations exceeds the CAAQS standard on its own. Therefore, the project concentration is compared against the significant impact level (SIL). As shown in the table below, the project concentrations are below the SIL and thus would not be considered significant. As a result, emissions from this project would not cause or contribute to an exceedance of the 24-hour and annual PM₁₀ CAAQS.

Pollutant	Averaging Period	Modeled Concentration (µg/m³)	SIL (µg/m³)
PM ₁₀	24-Hour Maximum	0.49	5
	Annual Maximum	0.062	1

112. Please confirm neither the stack exit height nor elevation would change because of this facility redesign.

RESPONSE TO DATA REQUEST 112

The stack exit height and base elevations will not change as a result of the undergrounding of the fuel storage tank basins. However, the height of the generator enclosures would be reduced by 4 feet and 7 inches. The decrease of an enclosure height near a stack has the potential to change downwash effects on the plume and hence concentrations. We performed model simulations to test if the reduction in the generator enclosure height would impact concentrations and conclusions of the analysis. The test model simulations demonstrated that changes to concentrations were *de minimis* and maximum one hour concentrations for each generator did not change. Therefore, further analysis or modeling is not needed.

113. If the exit or release height of the engine exhaust stack would change, please provide a revised air quality and public health impacts analysis.

RESPONSE TO DATA REQUEST 113

See response to DR 112. Revised air quality and public health impacts analysis is not needed.

BACKGROUND: Follow-up questions to Data Responses Set 2 (TN 230348) DR103, 104, and 105

Staff asked in Data Requests Set 2 for the City of Santa Clara's analysis of the project's compliance with the San Jose International Airport's Comprehensive Land Use Plan (CLUP), due to the project's proposed above-ground fuel storage in the Turning Safety Zone and Inner Safety Zone, which is prohibited per Policy S-4 of the CLUP. In Data Responses Set 2, the applicant stated that a planning application was provided to the City of Santa Clara, and that a copy of the City's analysis of project compliance with the CLUP would be provided once available.

Since then, the proposed project has been changed to show submerged fuel storage in an attempt to bring the project into compliance with Policy S-4 of the CLUP. However, staff does not have verification from the City of Santa Clara or the Airport Land Use Commission (ALUC) that the project modifications are fully in compliance with the CLUP. This information is needed in order to reach conclusions regarding potential for environmental impact in the Transportation, Land Use, and Hazardous Materials sections.

DATA REQUEST

114. Please provide documentation from the City of Santa Clara and the ALUC evaluating the modified project's compliance with the CLUP.

RESPONSE TO DATA REQUEST 114

When the SPPE Application was originally filed, C1 believed that the City of Santa Clara was going to make a finding of consistency with the CLUP. Since that time, the CEC Staff contacted the ALUC, which contacted the City of Santa Clara. The ALUC requested a voluntary referral to the ALUC in order to satisfy CEC Staff request for ALUC input. Therefore, the ALUC made the finding of consistency at its ALUC meeting on November 20, 2019.

We have requested a letter from the ALUC planner, Mark Connolly as evidence of the ALUC formal finding of consistency, but have not yet received it. Mr. Connolly has told us that he expects to finalize the letter this week. Once we receive the letter we will formally docket it.

BACKGROUND: Evaluation of FAA Airspace Obstruction

Staff needs to confirm that the project's height does not obstruct any protected FAA surfaces in order to reach conclusions regarding potential for environmental impact in the Transportation, Land Use, and Hazardous Materials sections. Each

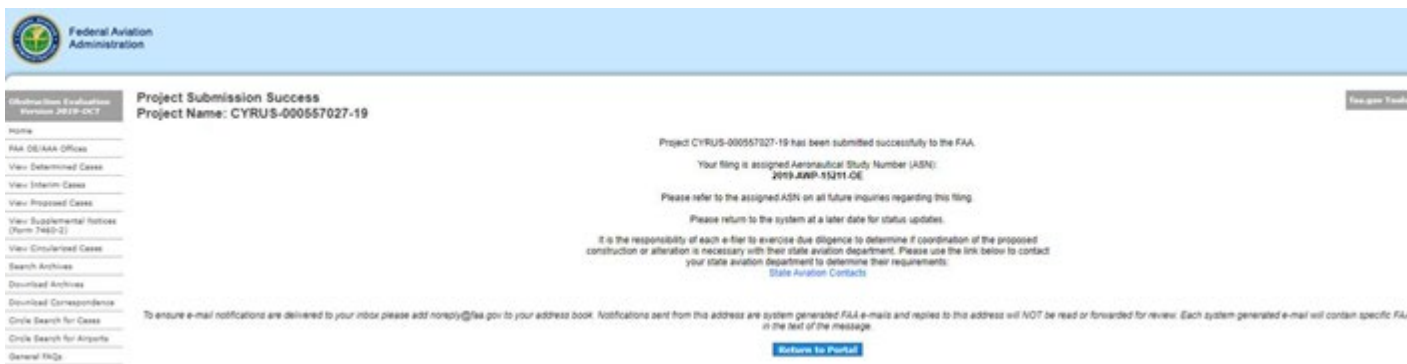
of these sections has CEQA checklist items that require an evaluation of whether the project obstructs FAA surfaces. During a November 8, 2019, phone call between staff and project representative Scott Galati regarding informational items needed for evaluation of the project, Mr. Galati acknowledged that the project's proximity to the airport and its height require FAA notification. He stated that the applicant's aviation group found no project obstruction of airspace, and that the applicant would file an FAA notification (Form 7460) with the FAA along with a copy of the aviation group's report showing no obstructions.

DATA REQUEST

115. Please provide staff with a copy of the aviation group's airspace evaluation report and a copy of the FAA filing.

RESPONSE TO DATA REQUEST 115

An obstruction analysis was performed and is included in Appendix TRANS DR 115 to evaluate the permanent structure and roof top mounted equipment. The obstruction analysis evaluated against FAR Part 77 surfaces, Terminal Instrument Procedures (TERPS) and Navigational Aids (NAVAIDS). The analysis identified that the permanent structure and roof top equipment did not penetrate nor obstruct any of the evaluated surfaces. A notice of proposed construction (7460-1) has been submitted to the FAA and is awaiting response from the FAA. The 7460-1 submittal has been assigned the following Aeronautical Study Number by the FAA as shown in the snip below: **2019-AWP-15211-OE**



116. Please summarize the quantities of heavy-duty haul truck trips anticipated during construction and verify that haul truck emissions have been included in the construction emissions estimates. Please combine the response with DRs 106-107, above.

RESPONSE TO DATA REQUEST 116

Emissions estimates shown in DR 106 include an updated truck trip generation provided by the project contractor. The project contractor provided a total number of duty heavy truck trips of 700 round trips. These truck trips are incorporated into CalEEMod®, and emissions from the trips are included in the emissions summary in DR 106.

BACKGROUND: Follow-up questions to Data Responses Set 1 (TN 229737) DR 37

Staff is not able to locate the meteorological (met) data files on the Air Quality Data Response CD. Staff needs to confirm that these files were processed by BAAQMD using AERMET version 18081.

DATA REQUEST

117. Please provide the processed BAAQMD AERMET version 18081 met files.

RESPONSE TO DATA REQUEST 117

The meteorological data that is publicly available from BAAQMD is provided in the compilation of electronic files in this submittal.

BACKGROUND: Follow-up questions to Data Responses Set 1 (TN 229737) DR 42 and 27

In response to DR 42, the applicant states that the NO₂ California Ambient Air Quality Standards (CAAQS) analysis included the overall 1-hour maximum background concentration. However, in looking at the modeling input and output files provided, staff found the worst-case 1-hour NO₂ CAAQS impact of 310 µg/m³ shown on page 20 (response to DR 27) of the Data Responses Set 1 (TN 229938) was from genset SWEG01 itself, not including background NO₂ concentration (i.e., AERMOD source: "C1 SWEG01" at 75% load in filename: "c1 .sc.no2.5y.c1 sweg01.075.1 hr.1st.plot").

DATA REQUEST

118. Please revise the modeling to include the background to assess compliance with the 1-hour NO₂ CAAQS.

RESPONSE TO DATA REQUEST 118

Revised NO₂ concentrations from the gensets and with background for comparison with the 1-hour NO₂ CAAQS are shown in the table below. Detailed concentrations by load

and generator are shown in Appendix AIR DR-118. Worst case daily 1-hour NO₂ concentrations averaged over the five years of meteorological data can be found in files c1.sc.no2.5y.[sourcegroup].[load].1hr.out. For total concentrations, the maximum background concentration of 128 µg/m³ are added to the concentrations from the gensets.

APPENDIX AIR DR-106

CalEEMod Output

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

CyrusOne Construction with Underground Storage Tank Grading
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	702.11	1000sqft	13.73	702,110.00	0
Parking Lot	141.00	Space	1.27	56,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2021
Utility Company	User Defined				
CO2 Intensity (lb/MW hr)	271	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

Project Characteristics - Project Characteristics - Utility company is Silicon Valley Power, using 271 lb/MWh based on Santa Clara County projections for 2020. PG&E defaults are used for CH4 and N2O intensity factors.

Land Use - Updated acreage based on Project Description.

Construction Phase - Default construction schedule from CalEEMod. Additional Grading phase added to account for material movement for Underground Fuel Tanks

Demolition - Site is currently vacant and unpaved.

Vehicle Trips - Estimating emissions only from Construction. Operational emissions are estimated separately.

Road Dust - Estimating emissions only from Construction. Operational emissions are estimated separately.

Woodstoves - Estimating emissions only from Construction. Operational emissions are estimated separately.

Consumer Products - Estimating emissions only from Construction. Operational emissions are estimated separately.

Area Coating - Estimating emissions only from Construction. Operational emissions are estimated separately.

Landscape Equipment - Estimating emissions only from Construction. Operational emissions are estimated separately.

Energy Use - Estimating emissions only from Construction. Operational emissions are estimated separately.

Water And Wastewater - Estimating emissions only from Construction. Operational emissions are estimated separately.

Solid Waste - Estimating emissions only from Construction. Operational emissions are estimated separately.

Mobile Commute Mitigation -

Area Mitigation -

Operational Off-Road Equipment - Estimating emissions only from Construction. Operational emissions are estimated separately.

Fleet Mix - Estimating emissions only from Construction. Operational emissions are estimated separately.

Off-road Equipment -

Off-road Equipment -

Grading - 1 acre for tank area

Trips and VMT - 950 one-way haul trips for underground fuel tanks

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_Nonresidential_Exterior	351055	0
tblAreaCoating	Area_Nonresidential_Interior	1053165	0

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

tblAreaCoating	Area_Parking	3384	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	30.00	4.00
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	19.71	0.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	MaterialExported	0.00	7,800.00
tblGrading	MaterialExported	0.00	5,700.00
tblLandUse	LotAcreage	16.12	13.73
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.029
tblProjectCharacteristics	CO2IntensityFactor	0	271
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	SolidWasteGenerationRate	870.62	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	950.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
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	162,362,937.50	0.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2020	4-30-2020	2.9373	2.9373
2	5-1-2020	7-31-2020	1.2329	1.2329
3	8-1-2020	10-31-2020	1.2374	1.2374
4	11-1-2020	1-31-2021	1.2062	1.2062
5	2-1-2021	4-30-2021	1.0869	1.0869
6	5-1-2021	7-31-2021	2.7174	2.7174
7	8-1-2021	9-30-2021	1.7149	1.7149
		Highest	2.9373	2.9373

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	0.0000	0.0000
Energy	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
Mobile	1.0058	4.4280	12.8669	0.0442	0.5876	0.0378	0.6255	0.2335	0.0354	0.2688	0.0000	4,045.807 3	4,045.807 3	0.1351	0.0000	4,049.185 7
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0058	4.4280	12.8669	0.0442	0.5876	0.0378	0.6255	0.2335	0.0354	0.2688	0.0000	4,045.807 3	4,045.807 3	0.1351	0.0000	4,049.185 7

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

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	0.0000	0.0000
Energy	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
Mobile	1.0058	4.4280	12.8669	0.0442	0.5876	0.0378	0.6255	0.2335	0.0354	0.2688	0.0000	4,045.8073	4,045.8073	0.1351	0.0000	4,049.1857
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0058	4.4280	12.8669	0.0442	0.5876	0.0378	0.6255	0.2335	0.0354	0.2688	0.0000	4,045.8073	4,045.8073	0.1351	0.0000	4,049.1857

	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
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

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2020	2/28/2020	5	20	
2	Site Preparation	Site Preparation	2/29/2020	3/13/2020	5	10	
3	Grading	Grading	3/14/2020	4/24/2020	5	30	
4	Grading - Underground Fuel Tanks	Grading	3/14/2020	3/19/2020	5	4	
5	Building Construction	Building Construction	4/25/2020	6/18/2021	5	300	
6	Paving	Paving	6/19/2021	7/16/2021	5	20	
7	Architectural Coating	Architectural Coating	7/17/2021	8/13/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 1.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,053,165; Non-Residential Outdoor: 351,055; Striped Parking Area: 3,384 (Architectural Coating – sqft)

OffRoad Equipment

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading - Underground Fuel Tanks	Rubber Tired Dozers	1	1.00	247	0.40
Grading - Underground Fuel Tanks	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	975.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	319.00	124.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	64.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Underground Fuel Tank	3	8.00	0.00	950.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.2 Demolition - 2020

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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209

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	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.2 Demolition - 2020

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	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209

3.3 Site Preparation - 2020

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	0.0204	0.2121	0.1076	1.9000e-004	0.0903	0.0110	0.1013	0.0497	0.0101	0.0598	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.3 Site Preparation - 2020

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	3.0000e-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125
Total	3.0000e-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	0.0204	0.2121	0.1076	1.9000e-004	0.0903	0.0110	0.1013	0.0497	0.0101	0.0598	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.3 Site Preparation - 2020

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	3.0000e-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125
Total	3.0000e-004	2.1000e-004	2.2500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6121	0.6121	2.0000e-005	0.0000	0.6125

3.4 Grading - 2020

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					0.1305	0.0000	0.1305	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0668	0.7530	0.4794	9.3000e-004		0.0326	0.0326		0.0300	0.0300	0.0000	81.7264	81.7264	0.0264	0.0000	82.3872
Total	0.0668	0.7530	0.4794	9.3000e-004	0.1305	0.0326	0.1632	0.0540	0.0300	0.0840	0.0000	81.7264	81.7264	0.0264	0.0000	82.3872

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.4 Grading - 2020

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	4.0500e-003	0.1415	0.0290	3.8000e-004	8.2600e-003	4.6000e-004	8.7200e-003	2.2700e-003	4.4000e-004	2.7100e-003	0.0000	37.1820	37.1820	1.7000e-003	0.0000	37.2245
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	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417
Total	5.0500e-003	0.1422	0.0365	4.0000e-004	0.0106	4.8000e-004	0.0111	2.9000e-003	4.5000e-004	3.3600e-003	0.0000	39.2225	39.2225	1.7500e-003	0.0000	39.2662

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					0.1305	0.0000	0.1305	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0668	0.7530	0.4794	9.3000e-004		0.0326	0.0326		0.0300	0.0300	0.0000	81.7263	81.7263	0.0264	0.0000	82.3871
Total	0.0668	0.7530	0.4794	9.3000e-004	0.1305	0.0326	0.1632	0.0540	0.0300	0.0840	0.0000	81.7263	81.7263	0.0264	0.0000	82.3871

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.4 Grading - 2020

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	4.0500e-003	0.1415	0.0290	3.8000e-004	8.2600e-003	4.6000e-004	8.7200e-003	2.2700e-003	4.4000e-004	2.7100e-003	0.0000	37.1820	37.1820	1.7000e-003	0.0000	37.2245
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	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417
Total	5.0500e-003	0.1422	0.0365	4.0000e-004	0.0106	4.8000e-004	0.0111	2.9000e-003	4.5000e-004	3.3600e-003	0.0000	39.2225	39.2225	1.7500e-003	0.0000	39.2662

3.5 Grading - Underground Fuel Tanks - 2020

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					0.0121	0.0000	0.0121	6.3100e-003	0.0000	6.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9000e-004	9.0900e-003	7.8300e-003	1.0000e-005		5.3000e-004	5.3000e-004		4.9000e-004	4.9000e-004	0.0000	1.0007	1.0007	3.2000e-004	0.0000	1.0088
Total	8.9000e-004	9.0900e-003	7.8300e-003	1.0000e-005	0.0121	5.3000e-004	0.0127	6.3100e-003	4.9000e-004	6.8000e-003	0.0000	1.0007	1.0007	3.2000e-004	0.0000	1.0088

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.5 Grading - Underground Fuel Tanks - 2020

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	3.9500e-003	0.1378	0.0282	3.7000e-004	8.0500e-003	4.5000e-004	8.5000e-003	2.2100e-003	4.3000e-004	2.6400e-003	0.0000	36.2286	36.2286	1.6600e-003	0.0000	36.2701
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	5.0000e-005	4.0000e-005	4.0000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089
Total	4.0000e-003	0.1379	0.0286	3.7000e-004	8.1800e-003	4.5000e-004	8.6300e-003	2.2400e-003	4.3000e-004	2.6700e-003	0.0000	36.3375	36.3375	1.6600e-003	0.0000	36.3790

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					0.0121	0.0000	0.0121	6.3100e-003	0.0000	6.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9000e-004	9.0900e-003	7.8300e-003	1.0000e-005		5.3000e-004	5.3000e-004		4.9000e-004	4.9000e-004	0.0000	1.0007	1.0007	3.2000e-004	0.0000	1.0088
Total	8.9000e-004	9.0900e-003	7.8300e-003	1.0000e-005	0.0121	5.3000e-004	0.0127	6.3100e-003	4.9000e-004	6.8000e-003	0.0000	1.0007	1.0007	3.2000e-004	0.0000	1.0088

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.5 Grading - Underground Fuel Tanks - 2020

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	3.9500e-003	0.1378	0.0282	3.7000e-004	8.0500e-003	4.5000e-004	8.5000e-003	2.2100e-003	4.3000e-004	2.6400e-003	0.0000	36.2286	36.2286	1.6600e-003	0.0000	36.2701
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	5.0000e-005	4.0000e-005	4.0000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089
Total	4.0000e-003	0.1379	0.0286	3.7000e-004	8.1800e-003	4.5000e-004	8.6300e-003	2.2400e-003	4.3000e-004	2.6700e-003	0.0000	36.3375	36.3375	1.6600e-003	0.0000	36.3790

3.6 Building Construction - 2020

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	0.1897	1.7172	1.5079	2.4100e-003		0.1000	0.1000		0.0940	0.0940	0.0000	207.2909	207.2909	0.0506	0.0000	208.5552
Total	0.1897	1.7172	1.5079	2.4100e-003		0.1000	0.1000		0.0940	0.0940	0.0000	207.2909	207.2909	0.0506	0.0000	208.5552

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.6 Building Construction - 2020

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	0.0440	1.2637	0.3366	3.0300e-003	0.0730	6.2600e-003	0.0793	0.0211	5.9900e-003	0.0271	0.0000	290.1492	290.1492	0.0133	0.0000	290.4819
Worker	0.0948	0.0681	0.7145	2.1500e-003	0.2264	1.4600e-003	0.2279	0.0602	1.3500e-003	0.0616	0.0000	194.1861	194.1861	4.7600e-003	0.0000	194.3052
Total	0.1388	1.3318	1.0511	5.1800e-003	0.2995	7.7200e-003	0.3072	0.0813	7.3400e-003	0.0887	0.0000	484.3353	484.3353	0.0181	0.0000	484.7870

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	0.1897	1.7172	1.5079	2.4100e-003		0.1000	0.1000		0.0940	0.0940	0.0000	207.2907	207.2907	0.0506	0.0000	208.5550
Total	0.1897	1.7172	1.5079	2.4100e-003		0.1000	0.1000		0.0940	0.0940	0.0000	207.2907	207.2907	0.0506	0.0000	208.5550

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.6 Building Construction - 2020

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	0.0440	1.2637	0.3366	3.0300e-003	0.0730	6.2600e-003	0.0793	0.0211	5.9900e-003	0.0271	0.0000	290.1492	290.1492	0.0133	0.0000	290.4819
Worker	0.0948	0.0681	0.7145	2.1500e-003	0.2264	1.4600e-003	0.2279	0.0602	1.3500e-003	0.0616	0.0000	194.1861	194.1861	4.7600e-003	0.0000	194.3052
Total	0.1388	1.3318	1.0511	5.1800e-003	0.2995	7.7200e-003	0.3072	0.0813	7.3400e-003	0.0887	0.0000	484.3353	484.3353	0.0181	0.0000	484.7870

3.6 Building Construction - 2021

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	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1406	140.1406	0.0338	0.0000	140.9858
Total	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1406	140.1406	0.0338	0.0000	140.9858

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.6 Building Construction - 2021

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	0.0245	0.7709	0.2052	2.0300e-003	0.0494	1.7100e-003	0.0511	0.0143	1.6300e-003	0.0159	0.0000	194.3239	194.3239	8.4700e-003	0.0000	194.5356
Worker	0.0595	0.0412	0.4415	1.4000e-003	0.1531	9.6000e-004	0.1540	0.0407	8.9000e-004	0.0416	0.0000	126.7093	126.7093	2.8800e-003	0.0000	126.7813
Total	0.0839	0.8121	0.6467	3.4300e-003	0.2024	2.6700e-003	0.2051	0.0550	2.5200e-003	0.0575	0.0000	321.0331	321.0331	0.0114	0.0000	321.3169

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	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1404	140.1404	0.0338	0.0000	140.9856
Total	0.1150	1.0546	1.0028	1.6300e-003		0.0580	0.0580		0.0545	0.0545	0.0000	140.1404	140.1404	0.0338	0.0000	140.9856

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.6 Building Construction - 2021

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	0.0245	0.7709	0.2052	2.0300e-003	0.0494	1.7100e-003	0.0511	0.0143	1.6300e-003	0.0159	0.0000	194.3239	194.3239	8.4700e-003	0.0000	194.5356
Worker	0.0595	0.0412	0.4415	1.4000e-003	0.1531	9.6000e-004	0.1540	0.0407	8.9000e-004	0.0416	0.0000	126.7093	126.7093	2.8800e-003	0.0000	126.7813
Total	0.0839	0.8121	0.6467	3.4300e-003	0.2024	2.6700e-003	0.2051	0.0550	2.5200e-003	0.0575	0.0000	321.0331	321.0331	0.0114	0.0000	321.3169

3.7 Paving - 2021

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	1.6600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0142	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.7 Paving - 2021

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	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854

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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	1.6600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0142	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.7 Paving - 2021

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	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854

3.8 Architectural Coating - 2021

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	3.6728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	3.6750	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.8 Architectural Coating - 2021

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	1.9700e-003	1.3700e-003	0.0146	5.0000e-005	5.0800e-003	3.0000e-005	5.1100e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	4.2019	4.2019	1.0000e-004	0.0000	4.2043
Total	1.9700e-003	1.3700e-003	0.0146	5.0000e-005	5.0800e-003	3.0000e-005	5.1100e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	4.2019	4.2019	1.0000e-004	0.0000	4.2043

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	3.6728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	3.6750	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

3.8 Architectural Coating - 2021

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	1.9700e-003	1.3700e-003	0.0146	5.0000e-005	5.0800e-003	3.0000e-005	5.1100e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	4.2019	4.2019	1.0000e-004	0.0000	4.2043
Total	1.9700e-003	1.3700e-003	0.0146	5.0000e-005	5.0800e-003	3.0000e-005	5.1100e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	4.2019	4.2019	1.0000e-004	0.0000	4.2043

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

	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	1.0058	4.4280	12.8669	0.0442	0.5876	0.0378	0.6255	0.2335	0.0354	0.2688	0.0000	4,045.8073	4,045.8073	0.1351	0.0000	4,049.1857
Unmitigated	1.0058	4.4280	12.8669	0.0442	0.5876	0.0378	0.6255	0.2335	0.0354	0.2688	0.0000	4,045.8073	4,045.8073	0.1351	0.0000	4,049.1857

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	4,893.71	926.79	477.43	10,790,827	10,790,827
Parking Lot	0.00	0.00	0.00		
Total	4,893.71	926.79	477.43	10,790,827	10,790,827

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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 Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	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 Light Industry	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Parking Lot	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	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	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	0.0000	0.0000	0.0000	0.0000	0.0000

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

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	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

7.0 Water Detail

7.1 Mitigation Measures Water

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

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Annual

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

CyrusOne Construction with Underground Storage Tank Grading
Santa Clara County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	702.11	1000sqft	13.73	702,110.00	0
Parking Lot	141.00	Space	1.27	56,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2021
Utility Company	User Defined				
CO2 Intensity (lb/MW hr)	271	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

Project Characteristics - Project Characteristics - Utility company is Silicon Valley Power, using 271 lb/MWh based on Santa Clara County projections for 2020. PG&E defaults are used for CH4 and N2O intensity factors.

Land Use - Updated acreage based on Project Description.

Construction Phase - Default construction schedule from CalEEMod. Additional Grading phase added to account for material movement for Underground Fuel Tanks

Demolition - Site is currently vacant and unpaved.

Vehicle Trips - Estimating emissions only from Construction. Operational emissions are estimated separately.

Road Dust - Estimating emissions only from Construction. Operational emissions are estimated separately.

Woodstoves - Estimating emissions only from Construction. Operational emissions are estimated separately.

Consumer Products - Estimating emissions only from Construction. Operational emissions are estimated separately.

Area Coating - Estimating emissions only from Construction. Operational emissions are estimated separately.

Landscape Equipment - Estimating emissions only from Construction. Operational emissions are estimated separately.

Energy Use - Estimating emissions only from Construction. Operational emissions are estimated separately.

Water And Wastewater - Estimating emissions only from Construction. Operational emissions are estimated separately.

Solid Waste - Estimating emissions only from Construction. Operational emissions are estimated separately.

Mobile Commute Mitigation -

Area Mitigation -

Operational Off-Road Equipment - Estimating emissions only from Construction. Operational emissions are estimated separately.

Fleet Mix - Estimating emissions only from Construction. Operational emissions are estimated separately.

Off-road Equipment -

Off-road Equipment -

Grading - 1 acre for tank area

Trips and VMT - 950 one-way haul trips for underground fuel tanks

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_Nonresidential_Exterior	351055	0
tblAreaCoating	Area_Nonresidential_Interior	1053165	0

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

tblAreaCoating	Area_Parking	3384	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	30.00	4.00
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	19.71	0.00
tblGrading	AcresOfGrading	0.00	1.00
tblGrading	MaterialExported	0.00	7,800.00
tblGrading	MaterialExported	0.00	5,700.00
tblLandUse	LotAcreage	16.12	13.73
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.029
tblProjectCharacteristics	CO2IntensityFactor	0	271
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	SolidWasteGenerationRate	870.62	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	950.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblWater	AerobicPercent	87.46	0.00
tblWater	AnaDigestCombDigestGasPercent	100.00	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
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	162,362,937.50	0.00
tblWater	SepticTankPercent	10.33	100.00

2.0 Emissions Summary

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

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	lb/day										lb/day					
Area	8.0700e-003	7.9000e-004	0.0864	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		0.1845	0.1845	4.9000e-004		0.1968
Energy	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
Mobile	7.2868	32.9955	96.8734	0.3182	4.2749	0.2763	4.5512	1.6984	0.2584	1.9567		32,086.5738	32,086.5738	1.1039		32,114.1718
Total	7.2949	32.9963	96.9598	0.3183	4.2749	0.2766	4.5515	1.6984	0.2587	1.9570		32,086.7583	32,086.7583	1.1044	0.0000	32,114.3686

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	lb/day										lb/day					
Area	8.0700e-003	7.9000e-004	0.0864	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		0.1845	0.1845	4.9000e-004		0.1968
Energy	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
Mobile	7.2868	32.9955	96.8734	0.3182	4.2749	0.2763	4.5512	1.6984	0.2584	1.9567		32,086.5738	32,086.5738	1.1039		32,114.1718
Total	7.2949	32.9963	96.9598	0.3183	4.2749	0.2766	4.5515	1.6984	0.2587	1.9570		32,086.7583	32,086.7583	1.1044	0.0000	32,114.3686

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

	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
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	Demolition	Demolition	2/1/2020	2/28/2020	5	20	
2	Site Preparation	Site Preparation	2/29/2020	3/13/2020	5	10	
3	Grading	Grading	3/14/2020	4/24/2020	5	30	
4	Grading - Underground Fuel Tanks	Grading	3/14/2020	3/19/2020	5	4	
5	Building Construction	Building Construction	4/25/2020	6/18/2021	5	300	
6	Paving	Paving	6/19/2021	7/16/2021	5	20	
7	Architectural Coating	Architectural Coating	7/17/2021	8/13/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 1.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,053,165; Non-Residential Outdoor: 351,055; Striped Parking Area: 3,384 (Architectural Coating – sqft)

OffRoad Equipment

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading - Underground Fuel Tanks	Rubber Tired Dozers	1	1.00	247	0.40
Grading - Underground Fuel Tanks	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	975.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	319.00	124.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	64.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading - Underground Fuel Tank	3	8.00	0.00	950.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.2 Demolition - 2020

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	lb/day										lb/day					
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
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
Worker	0.0555	0.0391	0.3823	1.1100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		111.0699	111.0699	2.7500e-003		111.1388
Total	0.0555	0.0391	0.3823	1.1100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		111.0699	111.0699	2.7500e-003		111.1388

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	lb/day										lb/day					
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.2 Demolition - 2020

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	lb/day										lb/day					
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
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
Worker	0.0555	0.0391	0.3823	1.1100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		111.0699	111.0699	2.7500e-003		111.1388
Total	0.0555	0.0391	0.3823	1.1100e-003	0.1232	7.7000e-004	0.1240	0.0327	7.1000e-004	0.0334		111.0699	111.0699	2.7500e-003		111.1388

3.3 Site Preparation - 2020

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0666	0.0469	0.4587	1.3400e-003	0.1479	9.2000e-004	0.1488	0.0392	8.5000e-004	0.0401		133.2839	133.2839	3.3000e-003		133.3665
Total	0.0666	0.0469	0.4587	1.3400e-003	0.1479	9.2000e-004	0.1488	0.0392	8.5000e-004	0.0401		133.2839	133.2839	3.3000e-003		133.3665

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.3 Site Preparation - 2020

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	lb/day										lb/day					
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
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
Worker	0.0666	0.0469	0.4587	1.3400e-003	0.1479	9.2000e-004	0.1488	0.0392	8.5000e-004	0.0401		133.2839	133.2839	3.3000e-003		133.3665
Total	0.0666	0.0469	0.4587	1.3400e-003	0.1479	9.2000e-004	0.1488	0.0392	8.5000e-004	0.0401		133.2839	133.2839	3.3000e-003		133.3665

3.4 Grading - 2020

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	lb/day										lb/day					
Fugitive Dust					8.7027	0.0000	8.7027	3.6010	0.0000	3.6010			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000		6,005.8653	6,005.8653	1.9424		6,054.4257
Total	4.4501	50.1975	31.9583	0.0620	8.7027	2.1739	10.8766	3.6010	2.0000	5.6009		6,005.8653	6,005.8653	1.9424		6,054.4257

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.4 Grading - 2020

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	lb/day										lb/day					
Hauling	0.2743	9.4672	2.0136	0.0254	0.5680	0.0309	0.5989	0.1557	0.0296	0.1853		2,705.3548	2,705.3548	0.1283		2,708.5611
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
Worker	0.0739	0.0521	0.5097	1.4900e-003	0.1643	1.0200e-003	0.1653	0.0436	9.4000e-004	0.0445		148.0932	148.0932	3.6700e-003		148.1850
Total	0.3483	9.5193	2.5233	0.0269	0.7323	0.0320	0.7642	0.1993	0.0305	0.2298		2,853.4480	2,853.4480	0.1319		2,856.7461

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	lb/day										lb/day					
Fugitive Dust					8.7027	0.0000	8.7027	3.6010	0.0000	3.6010			0.0000			0.0000
Off-Road	4.4501	50.1975	31.9583	0.0620		2.1739	2.1739		2.0000	2.0000	0.0000	6,005.8653	6,005.8653	1.9424		6,054.4257
Total	4.4501	50.1975	31.9583	0.0620	8.7027	2.1739	10.8766	3.6010	2.0000	5.6009	0.0000	6,005.8653	6,005.8653	1.9424		6,054.4257

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.4 Grading - 2020

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	lb/day										lb/day					
Hauling	0.2743	9.4672	2.0136	0.0254	0.5680	0.0309	0.5989	0.1557	0.0296	0.1853		2,705.3548	2,705.3548	0.1283		2,708.5611
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
Worker	0.0739	0.0521	0.5097	1.4900e-003	0.1643	1.0200e-003	0.1653	0.0436	9.4000e-004	0.0445		148.0932	148.0932	3.6700e-003		148.1850
Total	0.3483	9.5193	2.5233	0.0269	0.7323	0.0320	0.7642	0.1993	0.0305	0.2298		2,853.4480	2,853.4480	0.1319		2,856.7461

3.5 Grading - Underground Fuel Tanks - 2020

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	lb/day										lb/day					
Fugitive Dust					6.0720	0.0000	6.0720	3.1564	0.0000	3.1564			0.0000			0.0000
Off-Road	0.4463	4.5448	3.9161	5.6900e-003		0.2674	0.2674		0.2460	0.2460		551.5264	551.5264	0.1784		555.9858
Total	0.4463	4.5448	3.9161	5.6900e-003	6.0720	0.2674	6.3394	3.1564	0.2460	3.4024		551.5264	551.5264	0.1784		555.9858

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.5 Grading - Underground Fuel Tanks - 2020

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	lb/day										lb/day					
Hauling	2.0048	69.1833	14.7151	0.1853	4.1507	0.2260	4.3767	1.1376	0.2162	1.3538		19,769.9006	19,769.9006	0.9372		19,793.3312
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
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	2.0344	69.2042	14.9190	0.1859	4.2164	0.2264	4.4428	1.1550	0.2166	1.3716		19,829.1379	19,829.1379	0.9387		19,852.6052

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	lb/day										lb/day					
Fugitive Dust					6.0720	0.0000	6.0720	3.1564	0.0000	3.1564			0.0000			0.0000
Off-Road	0.4463	4.5448	3.9161	5.6900e-003		0.2674	0.2674		0.2460	0.2460	0.0000	551.5264	551.5264	0.1784		555.9858
Total	0.4463	4.5448	3.9161	5.6900e-003	6.0720	0.2674	6.3394	3.1564	0.2460	3.4024	0.0000	551.5264	551.5264	0.1784		555.9858

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.5 Grading - Underground Fuel Tanks - 2020

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	lb/day										lb/day					
Hauling	2.0048	69.1833	14.7151	0.1853	4.1507	0.2260	4.3767	1.1376	0.2162	1.3538		19,769.9006	19,769.9006	0.9372		19,793.3312
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
Worker	0.0296	0.0209	0.2039	5.9000e-004	0.0657	4.1000e-004	0.0661	0.0174	3.8000e-004	0.0178		59.2373	59.2373	1.4700e-003		59.2740
Total	2.0344	69.2042	14.9190	0.1859	4.2164	0.2264	4.4428	1.1550	0.2166	1.3716		19,829.1379	19,829.1379	0.9387		19,852.6052

3.6 Building Construction - 2020

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.6 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.5070	14.1054	4.0236	0.0333	0.8395	0.0706	0.9101	0.2417	0.0675	0.3092		3,520.4108	3,520.4108	0.1707		3,524.6773
Worker	1.1794	0.8317	8.1295	0.0237	2.6205	0.0164	2.6369	0.6951	0.0151	0.7101		2,362.0871	2,362.0871	0.0586		2,363.5510
Total	1.6864	14.9372	12.1532	0.0570	3.4600	0.0869	3.5469	0.9368	0.0826	1.0193		5,882.4979	5,882.4979	0.2292		5,888.2283

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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.6 Building Construction - 2020

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	lb/day										lb/day					
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
Vendor	0.5070	14.1054	4.0236	0.0333	0.8395	0.0706	0.9101	0.2417	0.0675	0.3092		3,520.4108	3,520.4108	0.1707		3,524.6773
Worker	1.1794	0.8317	8.1295	0.0237	2.6205	0.0164	2.6369	0.6951	0.0151	0.7101		2,362.0871	2,362.0871	0.0586		2,363.5510
Total	1.6864	14.9372	12.1532	0.0570	3.4600	0.0869	3.5469	0.9368	0.0826	1.0193		5,882.4979	5,882.4979	0.2292		5,888.2283

3.6 Building Construction - 2021

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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.6 Building Construction - 2021

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	lb/day										lb/day					
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
Vendor	0.4189	12.7181	3.6377	0.0330	0.8396	0.0288	0.8683	0.2417	0.0275	0.2692		3,487.7538	3,487.7538	0.1607		3,491.7723
Worker	1.0946	0.7433	7.4214	0.0229	2.6205	0.0159	2.6364	0.6951	0.0147	0.7097		2,280.1104	2,280.1104	0.0523		2,281.4190
Total	1.5134	13.4614	11.0591	0.0559	3.4601	0.0447	3.5048	0.9368	0.0422	0.9790		5,767.8641	5,767.8641	0.2131		5,773.1912

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	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.6 Building Construction - 2021

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	lb/day										lb/day					
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
Vendor	0.4189	12.7181	3.6377	0.0330	0.8396	0.0288	0.8683	0.2417	0.0275	0.2692		3,487.7538	3,487.7538	0.1607		3,491.7723
Worker	1.0946	0.7433	7.4214	0.0229	2.6205	0.0159	2.6364	0.6951	0.0147	0.7097		2,280.1104	2,280.1104	0.0523		2,281.4190
Total	1.5134	13.4614	11.0591	0.0559	3.4601	0.0447	3.5048	0.9368	0.0422	0.9790		5,767.8641	5,767.8641	0.2131		5,773.1912

3.7 Paving - 2021

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	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1664					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4219	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.7 Paving - 2021

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	lb/day										lb/day					
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
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
Worker	0.0515	0.0350	0.3490	1.0800e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		107.2152	107.2152	2.4600e-003		107.2768
Total	0.0515	0.0350	0.3490	1.0800e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		107.2152	107.2152	2.4600e-003		107.2768

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	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.1664					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4219	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.7 Paving - 2021

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	lb/day										lb/day					
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
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
Worker	0.0515	0.0350	0.3490	1.0800e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		107.2152	107.2152	2.4600e-003		107.2768
Total	0.0515	0.0350	0.3490	1.0800e-003	0.1232	7.5000e-004	0.1240	0.0327	6.9000e-004	0.0334		107.2152	107.2152	2.4600e-003		107.2768

3.8 Architectural Coating - 2021

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	lb/day										lb/day					
Archit. Coating	367.2829					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	367.5018	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.8 Architectural Coating - 2021

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	lb/day										lb/day					
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
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
Worker	0.2196	0.1491	1.4889	4.5900e-003	0.5257	3.1900e-003	0.5289	0.1395	2.9400e-003	0.1424		457.4516	457.4516	0.0105		457.7142
Total	0.2196	0.1491	1.4889	4.5900e-003	0.5257	3.1900e-003	0.5289	0.1395	2.9400e-003	0.1424		457.4516	457.4516	0.0105		457.7142

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	lb/day										lb/day					
Archit. Coating	367.2829					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	367.5018	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

3.8 Architectural Coating - 2021

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	lb/day										lb/day					
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
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
Worker	0.2196	0.1491	1.4889	4.5900e-003	0.5257	3.1900e-003	0.5289	0.1395	2.9400e-003	0.1424		457.4516	457.4516	0.0105		457.7142
Total	0.2196	0.1491	1.4889	4.5900e-003	0.5257	3.1900e-003	0.5289	0.1395	2.9400e-003	0.1424		457.4516	457.4516	0.0105		457.7142

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

	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	lb/day										lb/day					
Mitigated	7.2868	32.9955	96.8734	0.3182	4.2749	0.2763	4.5512	1.6984	0.2584	1.9567		32,086.5738	32,086.5738	1.1039		32,114.1718
Unmitigated	7.2868	32.9955	96.8734	0.3182	4.2749	0.2763	4.5512	1.6984	0.2584	1.9567		32,086.5738	32,086.5738	1.1039		32,114.1718

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	4,893.71	926.79	477.43	10,790,827	10,790,827
Parking Lot	0.00	0.00	0.00		
Total	4,893.71	926.79	477.43	10,790,827	10,790,827

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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 Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	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 Light Industry	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Parking Lot	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

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	lb/day										lb/day					
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

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	lb/day										lb/day					
General Light Industry	0	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
Parking Lot	0	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

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	lb/day										lb/day					
General Light Industry	0	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
Parking Lot	0	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

6.0 Area Detail

6.1 Mitigation Measures Area

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

	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	lb/day										lb/day					
Mitigated	8.0700e-003	7.9000e-004	0.0864	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		0.1845	0.1845	4.9000e-004		0.1968
Unmitigated	8.0700e-003	7.9000e-004	0.0864	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		0.1845	0.1845	4.9000e-004		0.1968

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	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0700e-003	7.9000e-004	0.0864	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		0.1845	0.1845	4.9000e-004		0.1968
Total	8.0700e-003	7.9000e-004	0.0864	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		0.1845	0.1845	4.9000e-004		0.1968

CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

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	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0700e-003	7.9000e-004	0.0864	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		0.1845	0.1845	4.9000e-004		0.1968
Total	8.0700e-003	7.9000e-004	0.0864	1.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004		0.1845	0.1845	4.9000e-004		0.1968

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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CyrusOne Construction with Underground Storage Tank Grading - Santa Clara County, Winter

Boilers

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

Equipment Type	Number
----------------	--------

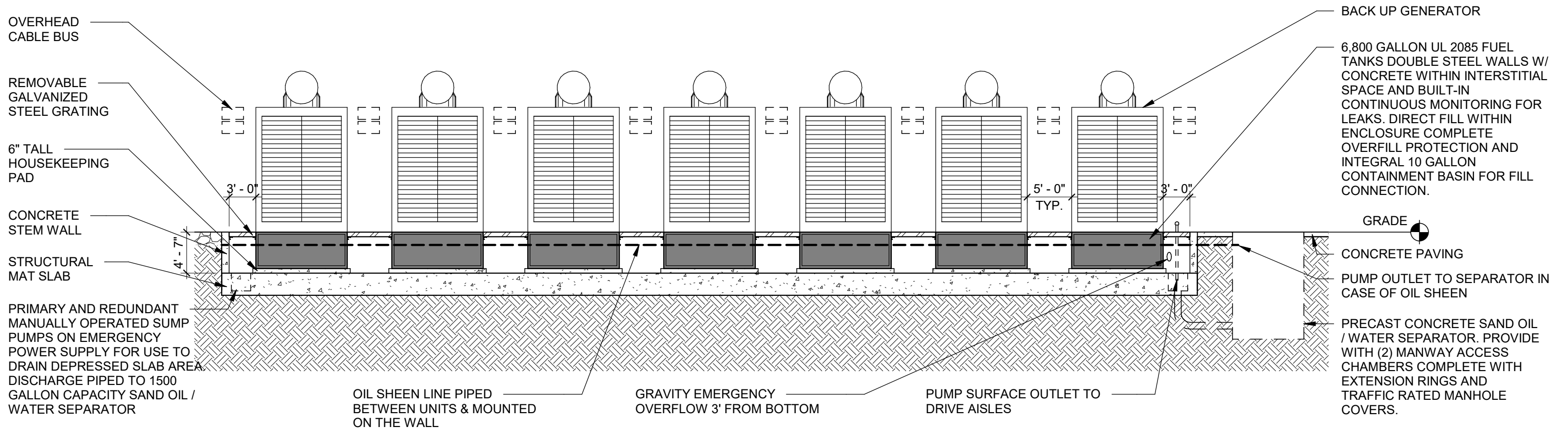
11.0 Vegetation

APPENDIX PD DR-108

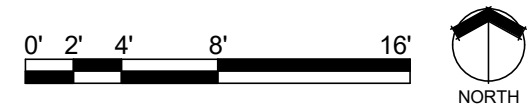
Enlarged Site Plan

APPENDIX PD DR-109

Cross-Section of Below Grade Tank Basin



Project Number: 18256.0000



SECTION @ SERVICE YARD

3/32" = 1'-0"

11/27/19



APPENDIX AIR DR-111

Construction AAQS Tables

Table 1
Construction 1-hr, 3-hr and 8-hr Model Emission Rates
Sequoia Back-up Power Facility
CyrusOne - Santa Clara, California

	Emission Rate ¹ [lb/hr]					Emission Rate ¹ [g/s]				
	NO _x	CO	SO ₂	Exhaust PM ₁₀	Exhaust PM _{2.5}	NO _x	CO	SO ₂	Exhaust PM ₁₀	Exhaust PM _{2.5}
Demolition	4.2	2.8	0.0050	0.21	0.19	0.52	0.35	6.3E-04	0.026	0.024
Site Preparation	5.3	2.7	0.0049	0.27	0.25	0.67	0.35	6.2E-04	0.03	0.03
Grading	16.7	6.7	0.035	0.34	0.31	2.10	0.84	0.0044	0.04	0.04
Building Construction	4.3	3.6	0.010	0.15	0.14	0.54	0.46	0.0013	0.019	0.018
Paving	1.6	1.9	0.0030	0.085	0.08	0.20	0.24	3.8E-04	0.011	0.010
Architectural Coating	0.2	0.4	9.5E-04	0.012	0.01	0.026	0.052	1.2E-04	0.002	0.002
Max	16.68	6.66	0.04	0.34	0.31	2.1021	0.8397	0.0044	0.0425	0.0393

Notes

- ¹. Emission rates calculated using CalEEMod output rates in pounds/day, divided by 8 hours of assumed construction operation per day

Abbreviations:

lb - pound	g - gram
s - second	hr - hour
NO _x - Nitrous Oxides	CO - carbon monoxide
SO ₂ - Sulfur Dioxide	PM - Particulate Matter

Table 2
Construction 24-hr Model Emission Rates
Sequoia Back-up Power Facility
CyrusOne - Santa Clara, California

	Emission Rate ¹ [lb/hr]			Emission Rate ¹ [g/s]		
	SO ₂	Exhaust PM ₁₀	Exhaust PM _{2.5}	SO ₂	Exhaust PM ₁₀	Exhaust PM _{2.5}
Demolition	0.0036	0.15	0.14	4.6E-04	0.019	0.018
Site Preparation	0.0036	0.20	0.18	4.5E-04	0.025	0.023
Grading	0.025	0.25	0.23	3.2E-03	0.031	0.029
Building Construction	0.0076	0.11	0.10	0.0010	0.014	0.013
Paving	0.0022	0.062	0.06	2.7E-04	0.0078	0.0071
Architectural Coating	6.9E-04	0.009	0.01	8.7E-05	0.0011	0.0011
Max	0.03	0.25	0.23	0.0032	0.03	0.03

Notes

1. Emission rates assume CalEEMod output rates in pounds/day, assuming a construction during of 11 hours per day.

Abbreviations:

lb - pound	g - gram
s - second	hr - hour
NO _x - Nitrous Oxides	CO - carbon monoxide
SO ₂ - Sulfur Dioxide	PM - Particulate Matter

Table 3
Construction Annual Model Emission Rates
Sequoia Back-up Power Facility
Santa Clara, California

Project Construction	CAP Emissions [lb] ^{1,2}				
	NO _x	CO	SO ₂	Exhaust PM ₁₀	Exhaust PM _{2.5}
Site Preparation	425	220	0.40	22	20
Grading	2,084	1105	3.4	68	63
Building Construction	9,831	8,417	25	337	317
Paving	259	300	0.48	14	13
Architectural Coating	33	66	0.16	1.9	1.9
Total	12,633	10,107	30	442	414
Length of Construction (days)	531				
Average Daily Emissions (lb/hour)	2.163	1.730	0.005	0.076	0.071
Average Daily Emissions (g/s)	0.273	0.218	0.001	0.010	0.009

Notes:

- ¹. Emissions estimated using CalEEMod version 2016.3.2.
- ². Construction activities associated with the SBGF are negligible and are included in the estimates for the SDC.

Abbreviations:

CalEEMod - California Emissions Estimator Model
 lb - pounds
 NO_x - nitrogen oxides
 ROG - reactive organic gases
 PM_{2.5} - particulate matter < 2.5 µm
 PM₁₀ - particulate matter < 10 µm
 BAAQMD - Bay Area Air Quality District
 CAP - Criteria Air Pollutants
 SBGF - Sequoia Backup Generating
 Facility
 SDC - Sequoia Data Center

References:

CalEEMod Version 2013.2.2 Available Online at: <http://www.caleemod.com>

Table 4
Modeled Construction Concentrations and NAAQS
Sequoia Back-up Power Facility
CyrusOne - Santa Clara, California

Pollutant	Averaging Period	UTM Zone 10 Coordinates (m)		Max. Dispersion Factor ($\mu\text{g}/\text{m}^3$)(g/s) ⁻¹	Emission rate (g/s)	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	3-Year Average Background Concentrations ($\mu\text{g}/\text{m}^3$) ^{2,3}	Total Concentrations	NAAQS ($\mu\text{g}/\text{m}^3$)	Above NAAQS?
		X	Y							
NO ₂ ¹	5-year average of 1-Hour Yearly 98th%	593760	4136140	171	--	171	N/A	171	188	No
	Annual	593661	4136202	28	--	28	N/A	28	100	No
CO	1-Hour	593740	4136200	60	0.84	51	2,443	2,494	40,000	No
	8-Hour	593360	4136380	27	0.84	23	1,909	1,931	10,000	No
SO ₂	5-year average of 1-Hour Yearly 99th%	593740	4136200	57	0.0044	0.254	6.1	6.4	196	No
	3-Hour	593740	4136200	47	0.0044	0.210	9.4	9.6	1,300	No
PM ₁₀ ⁴	24-Hour 6th highest over 5 years	593360	4136400	13	0.031	0.40	56	56	150	No
PM ₂₅ ⁴	5-year average of 24-Hour Yearly 98th%	593691.0	4136203.0	11	0.029	0.31	31	31	35	No
	5-year average of annual concentrations	593661.1	4136202.4	6.5	0.0089	0.058	9.7	9.8	12	No

Notes:

1. Direct emissions rate for NO₂ was used in the dispersion modeling to obtain NO₂ concentration using the Plume Volume Molar Ratio Method (PVMRM) to incorporate both dispersion and chemistry analyses. Since unit emissions rate was not used, there is no value for emissions rate in this table.
2. The 3-year average background concentrations were calculated using 2015-2017 data collected from Monitor Site ID 060850005 located at 158B Jackson Street in San Jose, California, as reported by EPA.
3. Seasonal NO₂ background values are computed using AERMOD and are already included in the modeled concentrations.
4. Modeled Particulate Matter concentrations are given for Exhaust PM only. Fugitive PM emissions addressed in a separate data response.

**Table 5
Modeled Construction Concentrations and CAAQS
Sequoia Back-up Power Facility
CyrusOne - Santa Clara, California**

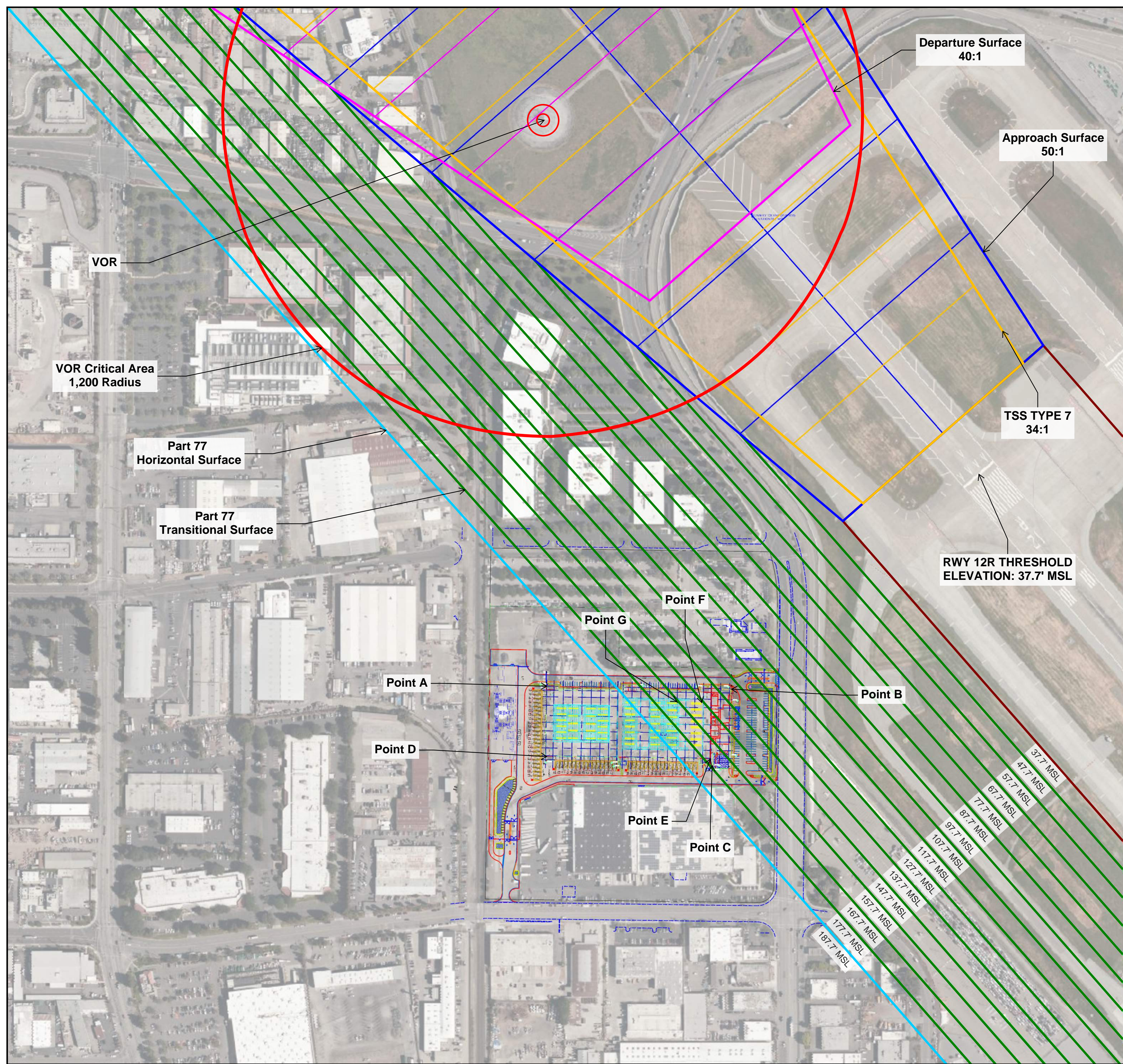
Pollutant	Averaging Period	UTM Zone 10 Coordinates (m)		Max. Dispersion Factor ($\mu\text{g}/\text{m}^3$)(g/s) ⁻¹	Emission rate (g/s)	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Maximum Background Concentrations ($\mu\text{g}/\text{m}^3$) ^{2,3}	Total Concentrations	CAAQS ($\mu\text{g}/\text{m}^3$)	Above CAAQS?
		X	Y							
NO ₂ ¹	1-Hour Maximum	593,740	4,136,200	114	--	114	128	242	339	No
	Annual Maximum	593,661.1	4,136,202.4	28	--	28	N/A	28	57	No
CO	1-Hour Maximum	593740	4136200	60	0.84	51	2,748	2,799	23,000	No
	8-Hour Maximum	593360	4136380	27	0.84	23	2,061	2,084	10,000	No
SO ₂	1-Hour Maximum	593740	4136200	60	0.0044	0.267	9.4	9.7	655	No
	24-Hour Maximum	593340	4136420	16	0.0032	0.051	2.9	2.9	105	No
PM ₁₀ ⁴	24-Hour Maximum	593340.0	4136420.0	16	0.031	0.49	69.0	69	50	Yes
	Annual Maximum	593661.1	4136202.4	6.5	0.0095	0.062	21.9	22	20	Yes
PM _{2.5} ⁴	Annual Maximum	593661.1	4136202.4	6.5	0.0089	0.058	10.6	10.7	12	No

Notes:

- ¹ Direct emissions rate for NO₂ was used in the dispersion modeling to obtain NO₂ concentration using the Plume Volume Molar Ratio Method (PVMRM) to incorporate both dispersion and chemistry analyses. Since unit emissions rate was not used, there is no value for emissions rate in this table.
- ² The maximum background concentrations from 2015 to 2017 data was used to show compliance with CAAQS.
- ³ Seasonal NO₂ background values are computed using AERMOD and are included in modeled annual concentrations. 1-hour NO₂ concentrations are modeled to give background-subtracted concentrations, and total 1-hour NO₂ concentrations are calculated as the sum of the modeled value and the max background concentration from 2015 to 2017
- ⁴ Modeled Particulate Matter concentrations are given for Exhaust PM only. Fugitive PM emissions addressed in a separate data response.

APPENDIX TRANS DR-115

FAA Surfaces Obstruction Analysis Drawing



BUILDING LIMITS							
Point	Latitude	Longitude	Part 77 Surface Elevation	Finished Floor Elevation	Maximum Structure Height	Proposed Top Height	Clearance from Part 77 Surface
A	37°22'07.8196"	-121°56'40.7800"	187.7' MSL	43.95' MSL	144.5' AGL	85' AGL	58.8' AGL (H)
B	37°22'07.8152"	-121°56'32.1784"	141.7' MSL		98.5' AGL	85' AGL	12.8' AGL (T)
C	37°22'04.8417"	-121°56'32.9660"	176.7' MSL		133.5' AGL	85' AGL	47.8' AGL (T)
D	37°22'05.0527"	-121°56'40.7800"	187.7' MSL		144.5' AGL	85' AGL	58.8' AGL (H)
E	37°22'05.2031"	-121°56'33.1087"	175.7' MSL		131.8' AGL	105' AGL	26.8' AGL (T)

BUILDING EQUIPMENT							
Point	Latitude	Longitude	Part 77 Surface Elevation	Finished Floor Elevation	Maximum Structure Height	Proposed Top Height	Clearance from Part 77 Surface
F	37°22'07.3642"	-121°56'33.5278"	157.7' MSL	43.95' MSL	113.8' AGL	93.8' AGL	20.0' AGL (T)
G	37°22'07.2783"	-121°56'34.6803"	167.57' MSL		123.8' AGL	94.9' AGL	28.9' AGL (T)

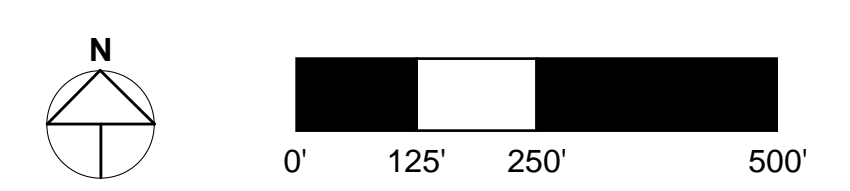
TABLE LEGEND

(H) - CLEARANCE MEASURED AGAINST HORIZONTAL SURFACE
 (T) - CLEARANCE MEASURED AGAINST TRANSITIONAL SURFACE

BUILDING STRUCTURE OBSTRUCTION ANALYSIS

PART 77 APPROACH SURFACE - NO OBSTRUCTION
 PART 77 TRANSITIONAL SURFACE - NO OBSTRUCTION
 PART 77 HORIZONTAL SURFACE - NO OBSTRUCTION
 DEPARTURE SURFACE - NO OBSTRUCTION
 TERPS THRESHOLD SITING SURFACE TYPE 7 - NO OBSTRUCTION
 NAVAID VOR CRITICAL AREA - NO OBSTRUCTION

- LEGEND**
- PRIMARY SURFACE
 - TRANSITIONAL SURFACE
 - HORIZONTAL SURFACE
 - APPROACH SURFACE
 - DEPARTURE SURFACE
 - THRESHOLD SITING SURFACE: TYPE 7
 - VOR CRITICAL AREA
 - CRANE OPERATIONAL AREA



APPENDIX AIR DR-118

Operational CAAQS Tables

DR 118. 1-Hour NO2 CAAQS Results
Model Report Tables
Sequoia Back-up Power Facility
CyrusOne - Santa Clara, California

Averaging Period	Source ID	5Y Single Maximum H1H Modeled Conc. at each Load (%) ($\mu\text{g}/\text{m}^3$) ¹				
		100	75	50	25	10
1-Hour	C1SEEG01	92.2	97.2	78.1	56.5	74.0
	C1SEEG02	91.5	96.8	78.2	56.9	73.7
	C1SEEG03	93.5	96.6	78.1	57.0	72.9
	C1SEEG04	95.8	96.2	77.9	56.9	73.4
	C1SEEG05	97.8	97.6	77.0	56.7	75.1
	C1SEEG06	99.9	99.5	78.8	56.3	76.3
	C1SEEG07	102.1	101.8	81.4	56.5	77.7
	C1SEEG08	104.4	105.5	84.2	57.3	79.2
	C1SEEG09	106.5	108.2	86.5	58.8	79.7
	C1SEEG10	107.7	110.9	88.2	60.1	80.3
	C1SEEG11	110.0	112.0	89.8	61.5	81.8
	C1SEEG12	112.3	113.8	91.2	63.3	82.5
	C1SEEG13	113.5	114.6	91.8	64.9	82.9
	C1SEEG14	115.4	114.7	92.3	66.1	83.2
	C1SEEG15	116.6	114.5	91.8	69.0	83.6
	C1SEEG16	117.0	114.4	91.4	71.7	88.2
	C1SEEG17	116.9	114.0	90.4	75.1	96.7
	C1SWEG01	198.5	196.8	170.5	102.5	100.2
	C1SWEG02	180.6	182.6	161.9	94.4	94.6
	C1SWEG03	154.3	159.9	146.8	86.6	82.3
	C1SWEG04	148.2	147.3	137.1	81.4	81.1
	C1SWEG05	141.8	139.1	128.7	74.9	77.2
	C1SWEG06	138.2	136.6	125.6	70.0	76.5
	C1SWEG07	132.9	132.1	122.1	68.5	76.3
	C1SWEG08	129.3	127.2	116.2	65.4	77.2
	C1SWEG09	125.3	124.8	114.1	64.0	76.0
	C1SWEG10	116.2	118.1	107.1	62.3	76.0
	C1SWEG11	113.2	113.6	103.8	59.2	75.4
	C1SWEG12	106.7	108.8	100.0	58.4	75.4
	C1SWEG13	103.6	104.8	94.0	58.5	76.2
	C1SWEG14	101.8	102.8	86.8	58.2	76.4
	C1SWEG15	100.0	100.6	85.0	57.4	75.9
	C1WEG001	95.3	94.4	86.1	84.1	83.2
	C1WEG002	94.6	95.0	85.1	84.8	83.7
	C1WEG003	93.4	95.1	82.8	82.9	81.8
	C1WEG004	92.1	94.7	82.8	82.1	81.6
	C1WEG005	91.6	94.4	82.4	81.5	80.5
	C1WEG006	90.9	93.8	80.2	80.0	80.7
	C1WEG007	89.9	93.0	80.2	80.4	81.8
	C1WEG008	88.8	92.0	80.2	80.2	81.8
	C1WEG009	88.0	91.9	80.4	79.1	80.5
	C1WEG010	89.0	92.5	80.6	76.5	78.4
C1WEG011	89.9	92.9	80.0	71.4	75.2	
C1WEG012	89.5	93.6	80.3	68.7	75.8	
C1WEG013	90.7	93.1	80.1	68.9	75.4	
C1WEG014	95.5	93.9	79.7	70.1	75.4	
C1WEG015	105.8	104.4	82.5	70.8	74.8	
C1WEG016	120.3	120.3	93.6	74.3	75.6	
C1WEG017	142.8	142.5	110.1	77.0	76.9	
C1WEG018	166.9	165.2	127.5	78.8	80.8	
C1WEG019	182.8	180.5	142.6	86.3	96.1	
C1WEG020	100.2	98.8	82.3	75.3	72.3	
C1WEG021	100.2	97.6	82.4	72.5	69.5	
C1WEG022	100.0	96.4	83.6	69.9	67.0	
	Maximum CAAQS	198.5	--	--	--	--

Notes:

¹ Concentrations are computed using AERMOD and are for concentrations from the generator only.