ATTACHMENT E

3333 California Street
Greenhouse Gas Emissions Analysis

Prepared for
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AB900 ANALYSIS

3333 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA

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1. INTRODUCTION

The mixed-use development project located at 3333 California Street in San Francisco, California (herein referred to as the "Proposed Project" or "Project") has applied for California Environmental Quality Act (CEQA) judicial streamlining under Public Resources Code (PRC) Section 21178 et seq. The Application also addresses a variant to the Proposed Project that removes proposed office space and replaces it with additional residences (hereinafter referred to as the "Project Variant"). In support of the Application, Ramboll US Corporation (Ramboll) quantified both direct and indirect greenhouse gas (GHG) emissions associated with the Proposed Project's and Project Variant's operation, including ongoing emissions reductions associated with transportation and building energy usage, to show the Project and Project Variant meet the requirement for no "net additional emission of greenhouse gases [GHG], including greenhouse gas emissions from employee transportation" [California PRC §21183(c)].

Throughout this report, GHG emissions are reported in units of metric tons of carbon dioxide equivalents (MT CO_2e). Carbon dioxide equivalents are emissions of carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), weighted by the global warming potentials (GWP) from Title 40 of the Code of Federal Regulations (CFR), Part 98, Table A-1, as referenced by the California Mandatory Reporting Rule for GHG (Title 17 of the California Code of Regulations, §§95100- 95158). GHG emissions are quantified for this Project (including construction and operational emissions) as well as existing uses. This document summarizes the assumptions and calculation methodologies Ramboll used to estimate GHG emissions. Summary tables are provided in the text, while more detailed calculation tables are provided in Appendix 1.

1.1 Project Description

1.1.1 Existing Conditions

The project site is currently developed with a four-story office building at the center of the site, a three-level partially subsurface parking garage, three surface parking lots, and a one-story annex building. The site currently has a diesel emergency generator located within Basement Level B1 (within a mechanical room in the easternmost circular garage ramp structure) and an above-ground fuel storage tank immediately east of Basement Level B2 near the Presidio Avenue entry driveway. The emergency diesel generator and above-ground fuel storage tank would be removed from the site during Phase 2 of construction, prior to the installation of a new emergency generator. Land uses are shown in **Table 1.**

The existing buildings contain University of California San Francisco (UCSF) administrative, academic research, social, behavioral, and policy science research department uses (including common areas and space for accessory uses and support programs, such as a daycare center, a conference center/auditorium, and a cafeteria). Prior to commencing Phase 1 of the four-phase construction program for the Proposed Project or Project Variant (see descriptions below), all existing UCSF uses and services are anticipated to be moved to other existing UCSF locations, such as the Mission Bay or Parnassus campuses.

1.1.2 Proposed Project

The Proposed Project would be a mixed-use development with predominantly residential uses and a mix of other uses (office, retail, and childcare). The development site is approximately 446,490 square feet or 10.252 acres located in San Francisco's Presidio

Heights neighborhood. The Proposed Project would include development of 558 residential units, 54,117 gross square feet of retail uses, 49,999 gross square feet of office uses, 14,690 gross square feet of childcare uses, 895 parking spaces in 428,773 gross square feet of below-grade garages, streetscape improvements, and open space. These proposed uses would be located in 13 new buildings and in the adaptively reused office building, which would be divided into two separate residential buildings. Plaza A and Plaza B buildings would be mixed-use residential buildings with ground floor retail units. The Walnut building would be a mixed-used office building with ground floor retail and childcare uses. The Masonic building and Laurel Duplexes (7 buildings) would contain only residential units and the Euclid building would be a mixed-use residential building with ground floor retail space.

Land uses for the Proposed Project are shown in **Table 1.**

1.1.3 Proposed Project Variant

Under the Project Variant, 744 dwelling units would be developed on the project site (186 more than the Proposed Project). The 49,999 gross square feet of commercial office space in the Proposed Project's Walnut Building would be replaced with a larger residential use, the retail floor area would be reduced, and the childcare use would be retained but slightly reduced. Overall, the Walnut Building under the Project Variant would be approximately 368,170 gross square feet, compared to 263,453 gross square feet under the Proposed Project, and would be 22 feet taller. There would be an additional 76 vehicle parking spaces provided under the Project Variant. The other proposed new buildings would not change relative to the Proposed Project.

Land uses for the Proposed Project Variant are shown in **Table 1.**

Table 1: Land Use

Land Use	Units	Existing Conditions	Project	Project Variant
Office Building*	Square Feet	364,500	49,999	N/A
Childcare Center	Square Feet	11,500	14,690	14,650
Open Space	Acres	3.79	5.42	5.42
Apartments (categorized as Mid Rise)	Dwelling Units	N/A	558	744
Retail	Square Feet	N/A	54,117	48,593
Parking Garage	Spaces	212	895	971
Parking Lot	Spaces	331	N/A	N/A
Bicycle Parking	Spaces	15	693	890

* Includes annex and storage space for the existing conditions scenario.

2. CONSTRUCTION GHG EMISSIONS

Construction of the Proposed Project and Project Variant will generate "one-time" emissions, that is, discrete emissions that are not associated with ongoing Project/Project Variant operation. These emissions are quantified and disclosed for the Proposed Project and Project Variant. Methodologies for quantifying construction GHG emissions are detailed in the following sections.

2.1 Construction Phasing

The Proposed Project and Project Variant would be constructed in four overlapping development phases with full buildout expected to occur approximately seven years after project entitlements. This analysis is based on an approximately seven-year construction duration and four-phase program that would constitute maximum development on the site; however, the project sponsor may choose to develop the Proposed Project or Project Variant over a timeframe of up to 15 years. Under an up to 15-year construction timeframe the same development program would be implemented; however, periods of dormancy would be introduced between construction phases, and some construction activities currently assumed as concurrent would occur separately over a longer timeframe. Thus, potential physical environmental effects of the Proposed Project or Project Variant under a longer construction timeframe would be similar to, but less severe, than those under a condensed construction timeframe.[1]

This analysis conservatively assumes that the residential buildings constructed in each phase of the construction program (i.e., Phase 1, Phase 2, or Phase 3) would be occupied and fully operational as soon as construction of a phase is completed. This is conservative because occupancy and operation of each phase would likely ramp up over time. The analysis also assumes that operational emissions from a phase can overlap with construction emissions from subsequent phases.

The first phase of the construction program (Phase 1) would commence after all existing uses at the UCSF Laurel Heights Campus, including the existing daycare center, have vacated. The preliminary construction schedule assumes that construction would start in 2020, that it would last approximately seven years or longer, and that it would take place for five days per week with different equipment operating for different hours. Due to the similar nature of the Proposed Project and Project Variant (including similar overall square footage), construction phasing, equipment, and schedule would be similar for both. See **Table 2** for a summary of the expected construction phasing timeline, provided by the project sponsor. Table Con-1 in Appendix 1 shows the phased construction duration by year for different phases. Appendix 3 contains construction information provided by the project sponsor.

[1] San Francisco Planning Department. 2018. Initial Study 3333 California Street Mixed Use Project. April 25. Available at: http://sfmea.sfplanning.org/3333%20California%20Street%20Initial%20Study_4-25-18.pdf

Table 2: Construction and Operation Timeline

Phase	Construction				Operation
	Phase Name	**Start Date**	**End Date**	**Total Number of Work Days**	**Start Date**
1	Masonic/Euclid	3/2/2020	8/19/2022	645	8/20/2022
2	Center Building A/B	9/10/2021	8/31/2023	515	9/1/2023
3	Plaza A/Plaza B/ Walnut	12/4/2022	11/18/2025	773	11/19/2025
4	Mayfair/Laurel Townhouse/Euclid Park	5/22/2025	1/12/2027	429	1/13/2027
			TOTAL	**2,362**	

Source: Webcor and Prado, 2017.

Phase 1 would include demolition of the existing annex building and the southern portion of the existing office building. After demolition, Phase 1 would include excavation on the southern portion of the site for the proposed Masonic Garage and construction of the Masonic and Euclid buildings, as well as portions of the privately owned common open spaces that would be open to the public. Phase 2 would include demolition of the northern portion of the existing building and the circular ramp structures, the partial demolition of the existing office building (to be separated into two structures, Center Buildings A and B), as well as some interior renovations, vertical additions of two to three stories, and seismic upgrades to adaptively reuse the existing office building as two separate residential buildings. The existing emergency generator would be removed during this phase and a new emergency generator would be installed.

Phase 3 would include demolition of the existing surface parking lots along California Street, followed by the excavation for the California Street Garage and construction of the California Street buildings (Plaza A, Plaza B and Walnut buildings). The new childcare facility is planned to be occupied by the end of Phase 3 construction. In Phase 4, there would be a limited amount of demolition of surface parking lots, as well as excavation for the Mayfair Garage and the private parking garages for the Laurel Duplexes and construction of the Mayfair Building and Laurel Duplexes. Land uses and amounts are shown by phase in **Table 3**.

Table 3: Project Land Use by Construction Phase

Land Use	Size Units	Phase 1	Phase 2	Phase 3		Phase 4
				Project	Project Variant	
Apartments (categorized as Mid Rise)	Dwelling Units	196	190	128	314	44
Childcare Center	Square Feet	--	--	14,690	14,650	--
General Office Building	Square Feet	--	--	49,999	--	--
Open Space	Acres	1.4	1.4	2.2		0.5
Retail	Square Feet	4,287	--	49,830	44,306	--
Parking	Spaces	209	190	452	528	44

2.2 Construction-Related GHG Emissions

Construction emissions include emissions from both off-road construction equipment (diesel and electric powered) and on-road construction vehicles, including haul trucks, concrete deliveries, and vendor trips. Due to the similarity in nature of the Proposed Project and Project Variant including construction equipment, phasing, and schedule, estimated construction emissions for the Proposed Project and Project Variant would be similar. Therefore, only one analysis was completed for the two scenarios.

2.2.1 Emissions from Diesel-Fueled Construction Equipment

Emissions calculations associated with off-road construction equipment are based on the construction schedule, type and quantity of equipment and hours of operation for each piece of equipment based on project specific information provided by the project sponsor[2] which is summarized in Table Con-2 of Appendix 1. GHG emissions from off-road construction equipment are estimated using methodologies consistent with the California Emissions Estimator Model (CalEEMod®) version 2016.3.2. All off-road equipment is assumed to have CalEEMod® default diesel engines without any mitigation. Electric equipment is discussed in section 2.2.2. Emissions associated with diesel fuel include only running exhaust emissions since starting emissions are assumed to be minimal for diesel-fueled equipment. Exhaust emissions calculations are based on California Air Resources Board's (CARB's) OFFROAD 2011 methodology as below:

[2] Bell, Joe, Webcor Builders, e-mail correspondence with Peter Mye at SWCA regarding construction data, September 14, 2017.

$$E_C = \sum (EF_C * HP * LF * Hr * Red * C)$$

Where:

E_C: off-road equipment exhaust emissions in pounds (lbs.)

EF_C: emission factor (g/bhp-hr). Emission factors for diesel equipment are default CalEEMod emission factors by Tier

HP: equipment horsepower. Project-specific equipment horsepower were provided by the project sponsor.

LF: equipment load factor. Project-specific or CalEEMod defaults

Hr: equipment operating hours

Red: reduction from Diesel Particulate Filter (DPF), as applicable

C: unit conversion factor

GHG emissions for each year of construction were then calculated based on the overall construction duration for each phase in a given year. Table Con-3 in Appendix 1 represents the yearly GHG emissions for each phase from off-road diesel equipment. The total GHG emissions associated with off-road construction diesel equipment are shown in **Table 4**. Supporting construction information provided by the project sponsor is included in Appendix 3.

2.2.2 Emissions from Electric Construction Equipment

GHG emissions from the use of electrical off-road equipment are estimated based on type and usage of each equipment. Usage information for all the electrical construction equipment is from SWCA's "Energy Assessment".[3] The Energy Assessment is attached in Appendix 3. Table Con-4 in Appendix 1 shows the yearly electricity consumption by construction equipment and GHG emission by year. Total electricity usage from operation of equipment is estimated to be about 7,170 MWh per year for both the Project and Project Variant.

Yearly GHG emissions were calculated by multiplying the CO_2e intensity factor with the scaled electricity consumption for each year. Electricity consumption was scaled by the overall construction duration of each phase and by the fraction of construction duration of each phase in a given year. The total GHG emissions associated with off-road construction electric equipment are shown in **Table 4**.

2.2.3 Emissions from On-Road Construction Trips

On-road construction vehicles such as passenger vehicles for workers and vendors, and trucks for soil and material hauling generate GHG emissions. These emissions are calculated based on the number of trips and vehicle miles traveled (VMT) along with emissions factors from Emission Factors Model (EMFAC2014).[4] Trip counts are provided

[3] SWCA. 2018. 3333 California Street Mixed-Use Project Energy Assessment / Case No. 2015-015028ENV. April 12. Revised July 23.

[4] A more recent version of EMFAC, EMFAC2017, has now been released. However, this model has not yet been approved by the USEPA or incorporated into CalEEMod®. Ramboll carried out a preliminary analysis of construction emissions using EMFAC 2017. The preliminary EMFAC2017 results confirmed that results would not change any of the original conclusions. If EMFAC2017 were incorporated, it would not be expected to significantly affect results.

by the project sponsor and CalEEMod® default trip lengths for worker, vendors and haul trips are used in the analysis. Trip counts and trip lengths are shown in Table Con-5 in Appendix 1. Sponsor provided construction data is included in Appendix 3. Running emission factors include running exhaust and running losses estimated for the years 2020-2027. Running emissions are calculated as,

$$E_R = \sum (EF_R * VMT * C)$$

Where:

VMT or Vehicle Miles Traveled: Trip Length*Trip Number

EF_R: running emission factor (g/mile) from EMFAC2014

C: unit conversion factor

On-road emissions also include exhaust emissions from vehicle idling. Idling emissions from EMFAC2014 are estimated only for heavy duty trucks since idling emissions occur during extended idling events for these trucks, and EMFAC-2014 takes account of idling emissions from light duty vehicles and other vehicle types in running emissions estimates. Idling emissions are estimated as,

$$E_I = \sum (EF_I * Idle\ Time * Trip\ Number)$$

Where:

EF_I = vehicle idling emissions factor (g/trip) from EMFAC 2014.

Idle Time = assumed to be 5 minutes of idling per one-way trip.

Trip Number = heavy duty truck trips provided by project sponsor

Idle time is consistent with California ATCM to limit diesel-fueled commercial motor vehicle idling (Title 13, CCR, section 2485)

GHG emissions for each year of construction are estimated based on the overall construction duration for each phase in a year. Table Con-3 in Appendix 1 reports the yearly GHG on-road emissions for each phase. The total GHG emissions associated with on-road construction trucks are shown in **Table 4**.

2.2.4 Watering for Dust Control

GHG emissions associated with the electricity consumed during watering for construction dust control are calculated based on the total water consumption, electricity use for watering, and the electricity intensity for water supply, distribution and treatment over the phased construction period. Total water consumption is from the Water Supply Assessment[5] which was summarized in the Energy Assessment. Table Con-6 in Appendix 1 reports the electricity construction and GHG emissions split by phase and year. Total GHG emissions associated with watering for dust control are shown in **Table 4**.

2.3 Summary of Construction GHG Emissions

The total emissions from construction are summarized in **Table 4**. Total GHG emissions from diesel off-road equipment, on-road trucks and electrical off-road equipment are 1,465, 1,716 and 1,090 MT CO_2e, respectively. Total GHG emissions from construction activities are approximately 4,273 MT CO_2e.

[5] San Francisco Water Power Sewer. 2017. Water Supply Assessment. June 13.

Table 4: Construction GHG Emissions (MT/year)

Year	Diesel Off-Road Equipment	On-Road Trucks	Electric Equipment	Electricity Use for Watering Dust Control	Total GHG Emissions
2020	173	259	109	0.028	541
2021	248	318	167	0.035	733
2022	277	243	212	0.028	732
2023	281	271	201	0.030	752
2024	194	252	118	0.026	564
2025	216	278	170	0.029	664
2026	74	92	111	0.012	277
2027	2.2	2.8	3.2	0.0003	8.3
Total GHG emissions from construction (MT)					**4,273**

3. OPERATIONAL GHG EMISSIONS

GHG emissions are quantified using the California Air Resources Board's current approved model, CalEEMod® version 2016.3.2. CalEEMod® was run for several scenarios including operation of the existing site, the Proposed Project (by phase), and Project Variant (by phase). Emissions categories include on-road vehicle exhaust (mobile), stationary sources within the project site (generators), energy (indirect emissions from electricity and direct emissions from natural gas), water and wastewater, solid waste disposal and area sources such as landscaping equipment.

3.1 GHG Emissions from Existing Conditions

Total GHG emissions from operation of the existing site in 2020 are shown in **Table 5**. Total GHG emissions are 3,873 MT CO_2e/year, with mobile sources being the largest contributor to GHG emissions, followed by electricity and natural gas use. The site currently includes one diesel emergency generator, three natural gas boilers, and two electrical substations within the Basement Levels B1 and B2, respectively and an above-ground diesel fuel storage tank located adjacent to Basement Level B2. The diesel emergency generator along with the substations will be decommissioned in 2023 during the completion of Phase 2 (Center Buildings A and B) of the Proposed Project or Project Variant. Emissions from the natural gas boilers are included in the building natural gas emissions. Emissions from the electrical substations are included in the building electrical emissions. Emissions from the diesel storage tank are minimal and are therefore not quantified.

To calculate emissions, CalEEMod® was run for year 2020 using data on existing land uses, with adjustments from defaults as described below. The lifetime of a building is assumed to be 30 years from full build out. Full build out of the Project and Project Variant was assumed to be 2028 so corresponding lifetime operational emissions occur until 2057. GHG emissions for existing conditions are assumed to be constant between 2020 and 2057, to compare existing emissions to lifetime operational emissions for a full 30 years after the Proposed Project or Project Variant is fully built out. No adjustments are made to existing emissions post-2020, consistent with CEQA methodology. CalEEMod® outputs and detailed calculations for the existing conditions are presented in Appendix 2 and Tables Ops-1 through Ops-17 of Appendix 1.

3.1.1 Mobile

CalEEMod® estimates mobile GHG emissions from running, idling, and starting exhaust for the aggregated projected vehicle fleet in a given calendar year and county. Mobile emissions for existing conditions for trips associated with workers and visitors are estimated using CalEEMod® based on the land uses shown in **Table 1**. Trip rates for the land use sub-types are estimated using the AM and PM peak hour driveway counts from the travel demand memorandum from Kittelson & Associates,[6] as shown in Table Ops-1a of Appendix 1. Trip lengths, trip types, and vehicle fleet mix are default values from CalEEMod®. Vehicle emission factors are the default values in CalEEMod®, which are obtained from EMFAC2014. Emissions are summarized in **Table 5**.

3.1.2 Energy

Energy emissions include indirect emissions from electricity used by buildings and direct natural gas combustion emissions. For each type of emissions, the historic energy

[6] Kittelson & Associates. 2018. Travel Demand Memorandum – Final. March 9.

consumption is multiplied by the relevant emission factor per energy unit. Pacific Gas & Electric (PGE) utility bill data is used from 2012-2014 to reflect the existing condition energy use, as shown in Table Ops-2 of Appendix 1. PGE data is included in Appendix 3.

Indirect GHG emissions, which occur when electricity is used, are typically due to electricity generation from offsite power plant locations. Electrical power is supplied to the study area by PGE. To estimate emissions, the electricity usage is multiplied by the emission intensity factors for the GHGs. Emission intensity factors are GHG emission rates from a given source in terms of the amount of GHG released (lbs) per megawatt hour (MWh) of energy produced. The GHG emission factors for electricity use change over time due to the California Renewables Portfolio Standard (RPS), a program designed to meet statewide GHG reduction targets. The RPS requires grid electricity to come from 33% renewable sources by 2020. Ramboll used emission factors and renewables percentages for 2014 through 2016 from PGE to project future electricity intensity based on the State achieving the 2020 target for the baseline inventory. The default electricity intensity for methane (CH_4) and nitrous oxide (N_2O) were obtained from CalEEMod® Appendix D (using PGE values) and were conservatively not adjusted for future inventory years. This calculation is shown in Table Ops-3 of Appendix 1.

GHG emissions from natural gas combustion are generated from commercial usage (e.g., cooking and heating) and industrial usage (e.g., boilers). CalEEMod® default emission factors are used.

Energy emissions are summarized in **Table 5**.

3.1.3 Water and Wastewater

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. Water for the study area is sourced from the San Francisco Public Utilities Commission (SFPUC). Additional emissions from wastewater treatment include CH_4 and N_2O, which are emitted directly from the wastewater.

Water use rates are based on CalEEMod® defaults for San Francisco County. The electricity intensity factor is the same as used for electricity emissions, as described in Section 3.1.2. Emissions are summarized in **Table 5**.

3.1.4 Solid Waste Disposal

Emissions from the transport and processing of solid waste are calculated using solid waste generation rates from CalEEMod® for San Francisco County. Indirect GHG emissions associated with waste disposal include CH_4 generation from the decomposition of waste and the CO_2 emissions associated with the combustion of CH_4, if applicable. GHG emissions associated with non-landfill diverted waste streams are not considered, because it is generally assumed that these diversions do not result in any appreciable amounts of GHG emissions when operated effectively. These waste diversion alternatives may result in differences in life-cycle emissions of GHGs, but it is not appropriate to combine life-cycle emissions for only one category of emissions. Biogenic CO_2 emissions were not included when CARB analyzed the GHG emissions inventory under Assembly Bill (AB) 32. Therefore, they are not included in the emissions inventory. Emissions are summarized in **Table 5**.

3.1.5 Area Sources

GHG emissions from area sources, such as architectural coatings and landscaping equipment, were estimated using CalEEMod® based on the type and size of land uses associated with the existing conditions. Emissions are summarized in **Table 5**.

3.1.6 Back-Up Generator

The site contains an existing 380 horsepower (HP) diesel generator that directly emits GHGs. Emissions are calculated as a product of engine horsepower, a CO_2 emission factor of 523.5 grams per horsepower hour (g/hp-hr) based on the CalEEMod® default factor, and 20 hours of annual operation for routine maintenance and testing based on the existing BAAQMD permit. Emissions calculations are shown in Table Ops-4 of Appendix 1.

Table 5: Existing Conditions Emissions Summary

Category	CO_2e Emissions (MT/year)
Mobile	2,199
Electricity	671
Natural Gas	659
Water and Wastewater	167
Solid Waste	172
Area Sources	0.0174
Stationary Source	4.0
Total[1]	**3,873**

Notes:
[1] Sub-totals may not sum to the total due to rounding.

3.2 GHG Emissions from Proposed Project and Project Variant

Project GHG emissions at the first full year of buildout (2028) would be 4,410 MT CO_2e/year, with mobile sources being the largest contributor to GHG emissions, followed by electricity and natural gas. Project Variant GHG emissions at the first full year of buildout (2028) would be 4,585 MT CO_2e/year, with mobile sources being the largest contributor to GHG emissions, followed by electricity and natural gas. An emissions summary at the full buildout year is shown in **Table 6**. Total GHG emissions from operation of the Proposed Project and Project Variant from 2020 to 2057 are shown in **Table 7**.

To calculate emissions, CalEEMod® was run for the buildout year of each phase, with adjustments from defaults and for future years as described below. CalEEMod® outputs and detailed calculations for the Proposed Project and Project Variant are presented in Appendix 2 and Tables Ops-1 through Ops-17 of Appendix 1.

3.2.1 Mobile

Mobile source emissions for the Proposed Project and Project Variant are calculated using the same methodology as described in Section 3.1.1 and represent emissions associated with resident, worker, and visitor trips. Emissions are based on daily vehicle trip data provided in the travel demand memorandum, with adjustments as shown in Table Ops-1b of Appendix 1. Trips were adjusted to remove double-counted internal trips, non-automobile trips, and double-counted carpool trips.

CO_2e emission factors from mobile sources are assumed to decrease over time to reflect fleet turnover and more efficient vehicle standards. Fleet-average emission factors through 2050 were calculated using EMFAC2017, and mobile emissions from the Proposed Project were adjusted to reflect the decreasing factors each year.[7] The fleet-average mobile emission factors decrease over time due to fleet turnover and regulations such as Advanced Clean Cars (ACC). Table Ops-5 of Appendix 1 summarizes the fleet-average mobile CO_2e emission factors and percent change that was used in the yearly analysis. Tables Ops-6 and Ops-7 of Appendix 1 summarize the yearly mobile emissions for the Proposed Project and Project Variant, respectively.

3.2.2 Energy

As described in Section 3.1.2, energy emissions include indirect emissions from electricity used by buildings and direct natural gas combustion emissions. Energy emissions for the Proposed Project and Project Variant were quantified using the same methodology as for the existing conditions, but reflect buildings constructed to 2013 Title 24 Building Energy Efficiency Standards and incorporate conservation measures such as increased lighting, cooling, and water heating efficiencies, solar photovoltaic (PV) electricity generation, and solar hot water heating. Annual energy use totals for the Proposed Project and Project Variant are taken from the Energy Assessment and supporting CEQA Energy Inputs from Arup ("CEQA Energy Inputs").[8] The Energy Assessment and supporting CEQA Energy Inputs report are attached in Appendix 3. Project and Project Variant energy use totals are shown in Table Ops-8 of Appendix 1. Energy use is further reduced through solar PV electricity generation and solar hot water heating, as described below and as shown in Table Ops-9 of Appendix 1.

3.2.2.1 Electricity

Indirect electricity emissions for the Proposed Project and Project Variant are estimated using the same methodology as described for the existing conditions in Section 3.1.2, except that intensity factors decrease each year up to 2050. The intensity factors assume that California achieves the State's Senate Bill (SB) 350 requirement to acquire 50 percent of energy from renewable sources by 2030.[9] For 2050, it assumes that to achieve California's 2050 GHG goal of 80% GHG emissions below 1990 levels, the State will similarly achieve 80% RPS by 2050. This is consistent with the RPS assumptions in the CARB 2017 Climate Change Scoping Plan.[10]

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[7] Since these fleet-average emission factors were calculated outside of CalEEMod®, the newest version of the EMFAC model (EMFAC2017) was used to estimate percent change over time.

[8] Arup. 2018. 3333 California St. CEQA Energy Calculations, Draft 2. January 12.

[9] CEC. 2016. Clean Energy & Pollution Reduction Act SB 350 Overview. Available at: http://www.energy.ca.gov/sb350/. Accessed: July 2018.

[10] CARB. 2017. 2017 Scoping Plan, Appendix D: PATHWAYS, pg. 12 (November). Available at: https://www.arb.ca.gov/cc/scopingplan/2030sp_appd_pathways_final.pdf

Energy use rates from the Energy Assessment that reflect 2013 Title 24 and energy conservation measures are used. Energy use is estimated by phase and calendar year based on the Energy Assessment's supporting data, with maximum energy use at full buildout. Renewable electricity due to rooftop solar PV is projected to offset a portion of the Proposed Project and Project Variant's electricity consumption and emissions. The amount of electricity offset by renewables is taken from the Energy Assessment and the CEQA Energy Inputs.

Emissions are summarized in Table 6. Tables Ops-5 and Ops-10 of Appendix 1 summarize the CO_2e intensity factors used in the yearly analysis and the yearly electricity emissions, respectively. Table Ops-9 of Appendix 1 summarizes the annual reductions due to solar PV.

3.2.2.2 Natural Gas

GHG emissions from natural gas combustion are generated from residential usage, commercial usage (e.g., cooking and heating) and industrial usage. Energy usage rates from the Energy Assessment that reflect 2013 Title 24 and energy conservation measures are used.

Energy use is estimated by phase and calendar year based on the Energy Assessment's supporting data, with maximum energy use at full buildout. Hot water generated by rooftop solar tubes is projected to offset a portion of the Proposed Project and Project Variant's natural gas consumption and emissions. The amount of natural gas offset by solar hot water is taken from the Energy Assessment and the CEQA Energy Inputs.

CalEEMod® default emission factors are used. Emissions are summarized in **Table 6**. Table Ops-10 of Appendix 1 summarizes the yearly natural gas emissions. Table Ops-9 of Appendix 1 summarizes the annual reductions due to solar water heating.

3.2.3 Water and Wastewater

Emissions from water and wastewater use for the Proposed Project and Project Variant are calculated using the same methodology as described in Section 3.1.3. Project-specific water use totals are estimated by phase and calendar year based on the Energy Assessment and supporting SFPUC's Water Supply Assessment[11] and CEQA Energy Inputs, with maximum annual water use at full buildout. Water use is shown in Table Ops-8 of Appendix 1. Indirect electricity emissions to supply, treat, and distribute water decrease over time as the electricity intensity factor decreases. The indirect electricity emissions per gallon of water are taken from the CEQA Energy Inputs. Direct and indirect emissions from wastewater are based on CalEEMod® defaults and are shown in Tables Ops-11 and Ops-12 of Appendix 1. Emissions are summarized in **Table 6**, with year-by-year emissions shown in Table Ops-13 of Appendix 1.

3.2.4 Solid Waste Disposal

Emissions from solid waste disposal for the Proposed Project and Project Variant are calculated using the same methodology as described in Section 3.1.4. Project-specific waste use totals are estimated by phase and calendar year based on the Energy Assessment and CEQA Energy Inputs, with maximum annual waste disposal at full buildout. Waste generation and emissions are shown in Table Ops-14 of Appendix 1. Emissions are summarized in **Table 6**.

[11] San Francisco Public Utilities Commission (SFPUC). 2017. Water Supply Assessment for the 3333 California Street Project. May 17.

3.2.5 Area

GHG emissions from area sources, such as architectural coatings and landscaping equipment, for the Proposed Project and Project Variant were calculated using the same methodology as described in Section 3.1.5. Emissions are based on the type and size of land uses associated with the Proposed Project and Project Variant. Emissions are summarized in **Table 6**.

3.2.6 Back-Up Generator

Operation of standby emergency engines will result in direct emissions of GHGs. The Proposed Project includes the installation of one 1,073 horsepower (HP) diesel generator. Emissions are calculated as a product of engine horsepower, a CO_2e emission factor of 523.5 g/hp-hr based on Tier 2 diesel equipment, and a limit of 50 hours of operation for routine maintenance and testing. This is consistent with the maximum allowed testing time from the Airborne Toxics Control Measure (ATCM) for Stationary Compression Ignition Engines (17 CCR 93115) for a Tier 2 engine. The final BAAQMD permit for the generator may have a condition for fewer hours of operation for routine maintenance and testing (such as the 20 hours for the existing generator at the site); however, for this analysis we conservatively assumed the highest limit allowed by the ATCM. This is shown in Table Ops-4 of Appendix 1.

3.2.7 Vegetation Changes

The Project and Project Variant propose to create a net increase in new trees and grassland, which sequester GHG emissions over their lifetime. Emissions calculations are shown in Table Ops-15 of Appendix 1.

3.2.8 Emissions by Phase

The fraction of land use subtypes built in each phase is shown in Table Ops-16 of Appendix 1, while area and mobile source emissions by phase for each year of ongoing construction from 2022 through 2028 are presented in Table Ops-17 of Appendix 1.

3.3 Summary of Operational GHG Emissions

Operational source emissions are slightly different for the Project compared to the Project Variant due to differences in land use. Project and Project Variant operational emissions for full buildout are shown in **Table 6**.

Table 6: Project and Project Variant Operational Emissions for Full Build Out Year (2028)

Category	Project CO_2e Emissions (MT)	Project Variant CO_2e Emissions (MT)
Mobile	3,339	3,396
Electricity	662	695
Natural Gas	568	638
Water and Wastewater	43	54
Solid Waste	37	32
Area Sources	29	39
Stationary Source	28	28
Solar Reductions	-284	-284
Vegetation Reductions	-13	-13
Total	**4,410**	**4,585**

4. MEASURES FOR OFFSETTING NET INCREASE GHG EMISSIONS

4.1 Overall Year-by-Year Emissions

The year-by-year summary comparison of the existing condition to the Proposed Project and Project Variant is shown in **Table 7**. Detailed yearly GHG emissions for construction and concurrent operations for the Project and Project Variant are presented in Tables Ops-6 and Ops-7 of Appendix 1. Project emissions would exceed existing condition emissions from 2026 through 2037. Project Variant emissions would exceed existing emissions from 2026 through 2043.

From 2020 to 2025, the Project and Project Variant would not be fully operational and emissions from phases 1 and 2 of operation would be below existing condition emissions. The added operation of phase 3 in 2026 would increase the Project and Project Variant emissions above existing condition emissions. By 2038 for the Proposed Project and by 2044 for the Project Variant, with anticipated reductions from the RPS and fleet turnover, Project and Project Variant emissions would be below existing emissions.

Total construction emissions would be 4,273 MT for both the Project and the Project Variant. Total gross operational emissions would be 3,703MT for the Project and 6,235 MT for the Project Variant. Total gross operational emissions for the lifetime of the Project or Project Variant do not include any benefits or credits from any years where the existing conditions are higher than Project or Project Variant emissions.

Table 7: Year-by-Year Comparison of GHG Emissions

Year	GHG Emissions (MT CO_2e/year)					
	Existing Condition Emissions	Project Operational Emissions	Project Operational Difference[1]	Project Variant Operational Emissions	Project Variant Operational Difference[1]	Construction Emissions[2]
2020	3,873	0	-3,873	0	-3,873	541
2021	3,873	0	-3,873	0	-3,873	733
2022	3,873	340	-3,533	331	-3,542	732
2023	3,873	1,235	-2,637	1,201	-2,672	752
2024	3,873	1,733	-2,140	1,678	-2,195	564
2025	3,873	1,858	-2,015	1,832	-2,041	664
2026	3,873	4,481	609	4,669	796	277
2027	3,873	4,496	623	4,674	801	8
2028	3,873	4,410	537	4,585	712	--
2029	3,873	4,326	453	4,498	626	--
2030	3,873	4,251	378	4,421	548	--

Table 7: Year-by-Year Comparison of GHG Emissions

Year	GHG Emissions (MT CO_2e/year)					
	Existing Condition Emissions	Project Operational Emissions	Project Operational Difference[1]	Project Variant Operational Emissions	Project Variant Operational Difference[1]	Construction Emissions[2]
2031	3,873	4,184	311	4,352	480	--
2032	3,873	4,123	251	4,290	418	--
2033	3,873	4,069	197	4,235	362	--
2034	3,873	4,021	148	4,184	311	--
2035	3,873	3,977	104	4,139	266	--
2036	3,873	3,937	64	4,098	225	--
2037	3,873	3,901	28	4,060	187	--
2038	3,873	3,868	-4	4,026	153	--
2039	3,873	3,839	-34	3,995	122	--
2040	3,873	3,812	-61	3,967	94	--
2041	3,873	3,787	-86	3,941	68	--
2042	3,873	3,764	-109	3,917	44	--
2043	3,873	3,742	-130	3,894	21	--
2044	3,873	3,722	-151	3,872	0	--
2045	3,873	3,702	-170	3,852	-21	--
2046	3,873	3,683	-189	3,832	-41	--
2047	3,873	3,677	-196	3,824	-49	--
2048	3,873	3,658	-214	3,805	-68	--
2049	3,873	3,641	-232	3,786	-87	--
2050	3,873	3,625	-248	3,769	-104	--
2051	3,873	3,625	-248	3,769	-104	--
2052	3,873	3,625	-248	3,769	-104	--
2053	3,873	3,625	-248	3,769	-104	--
2054	3,873	3,625	-248	3,769	-104	--
2055	3,873	3,625	-248	3,769	-104	--
2056	3,873	3,625	-248	3,769	-104	--

Table 7: Year-by-Year Comparison of GHG Emissions

Year	GHG Emissions (MT CO_2e/year)					
	Existing Condition Emissions	Project Operational Emissions	Project Operational Difference[1]	Project Variant Operational Emissions	Project Variant Operational Difference[1]	Construction Emissions[2]
2057	3,873	3,625	-248	3,769	-104	--
Total Gross Emissions (MT)[2]	**--**	**--**	**3,703**	**--**	**6,235**	**4,273**

Notes:
[1] Where existing emissions are greater than operational emissions, no credit has been taken in the "Total Gross Operational Emissions" summation.
[2] Project and Project Variant emissions for 2020 through 2021 include only construction-related emissions. Project and Project Variant emissions for 2022 through 2027 include both construction-related and operational emissions. All construction emissions are considered to be a net increase for those analysis years and apply to both the Proposed Project and Project Variant.

4.2 Mitigation Measures/Voluntary Carbon Credits/Conclusions

To offset the increase in GHG emissions from construction in 2020 through 2027 and from operation in 2026 through 2037 (Project) and 2043 (Project Variant), the project sponsor commits to measures to ensure there will be no net additional GHG emissions associated with the Project or Project Variant. This could be achieved through on-site mitigation measures such as installing additional solar panels or electric vehicle charging stations, or through the purchase of qualified GHG credits.

APPENDIX 1
RAMBOLL SUPPORTING TABLES

Table Con-1. Construction Phase Duration by Year
3333 California St AB900
San Francisco, CA

Phase	Phase Name	Start Date	End Date	Total number of work days	Construction phase duration by year[1,2]							
					2020	2021	2022	2023	2024	2025	2026	2027
1	Masonic/Euclid	3/2/2020	8/19/2022	645	34%	41%	26%	--	--	--	--	--
2	Center Building A/B	9/10/2021	8/31/2023	515	--	16%	51%	34%	--	--	--	--
3	Plaza A/Plaza B/ Walnut	12/4/2022	11/18/2025	773	--	--	3%	34%	34%	30%	--	--
4	Mayfair/Townhouse/Euclid Park	5/22/2025	1/12/2027	429	--	--	--	--	--	37%	61%	2%
			TOTAL	**2,362**								

Notes:

[1] Construction duration per year is calculated as construction duration of phase in a year/total construction duration.

[2] Total percentages in the table may not add up to 100% due to rounding.

Table Con-2. Project Off-Road Diesel Construction Equipment List
3333 California Street
San Francisco, California

Subphase[1]	Equipment Type	Number	Hours/day	Horsepower	Load Factor	Phase
Exterior	Aerial Lifts	2	8	63	0.31	All
Demolition	Air Compressors	2	5	78	0.48	All
Excavation	Crawler Tractors with Rippers	1	8	208	0.43	All
Excavation	Excavators	2	8	163	0.38	All
Excavation	Excavators with Hoe Ram	2	8	163	0.38	All
Exterior	Forklifts	1	8	89	0.20	All
Exterior	Pavers	1	8	126	0.42	Street Paving[1]
Exterior	Paving Equipment	1	8	131	0.36	Street Paving[1]
Structure	Pumps	1	8	84	0.74	Pouring Days[2]
Exterior	Rollers	1	6	81	0.38	Street Paving[1]
All	Rough Terrain Forklifts	2	8	100	0.40	All
Demolition	Skid Steer Loaders (Bobcat)	1	8	65	0.37	All
All	Sweepers/Scrubbers	1	3	64	0.46	All
Excavation	Tractors/Loaders/Backhoes	2	8	98	0.37	All

Notes:

1. Street paving occurs for one day at the completion of each construction phase.
2. There will be approximately 50 pouring days during Phase 1, 15 pouring days during Phase 2, 70 pouring days during Phase 3, and 12 pouring days during Phase 4.

Table Con-3. Construction Offroad and Onroad GHG Emissions
3333 California St AB900
San Francisco, CA

Emission Source	Phase	Total CO_2e Emissions (MT)	CO_2e Emissions by Year[1]							
			2020	2021	2022	2023	2024	2025	2026	2027
Offroad Diesel Equipment[2]	1	512	173	207	131	--	--	--	--	--
	2	259	--	41	131	87	--	--	--	--
	3	573	--	--	15	194	194	170	--	--
	4	122	--	--	--	--	--	46	74	2
Onroad Trucks and Vehicles[3]	1	763	259	309	195	--	--	--	--	--
	2	58	--	9	29	19	--	--	--	--
	3	745	--	--	19	252	252	221	--	--
	4	152	--	--	--	--	--	57	92	3
Total	All	3,182	432	567	520	552	447	494	167	5

Notes:

[1] Yearly emissions split by fraction of phase in each year.

[2] Emissions are calculated based on default CalEEMod® off-road construction equipment tiers for each piece of equipment in the emissions year modeled. A construction equipment list and hours of operation for each piece of equipment for each phase were provided by the Project Sponsor.

[3] Total number of hauling, concrete, and delivery trips and trip distances are discussed in Table Con-5.

Abbreviations:

CO_2e - carbon dioxide equivalents

MT - metric ton

Table Con-4. Electricity Usage and Emissions from Construction Electric Equipment
3333 California St AB900
San Francisco, California

Electricity Usage[1]

Total Electricity Usage	7,169,549	kWh

Phase	Number of Days	Electric Equipment Usage (kWh)	Usage by Year[2] (kWh)							
			2020	2021	2022	2023	2024	2025	2026	2027
1	645	1,957,815	663,482	794,003	500,331	--	--	--	--	--
2	515	1,563,217	--	245,338	792,464	525,414	--	--	--	--
3	773	2,346,343	--	--	60,831	792,977	795,149	697,385	--	--
4	429	1,302,175	--	--	--	--	--	486,145	792,156	23,873
Total	2,362	7,169,549	663,482	1,039,341	1,353,626	1,318,391	795,149	1,183,530	792,156	23,873

Phase	CO_2e Intensity Factor by Year[3] (lb CO_2e/MWh)							
	2020	2021	2022	2023	2024	2025	2026	2027
All	363	354	345	335	326	317	308	299

Phase	CO_2e Emissions by Year (MT/yr)							
	2020	2021	2022	2023	2024	2025	2026	2027
1	109	127	78	--	--	--	--	--
2	--	39	124	80	--	--	--	--
3	--	--	9.5	121	118	100	--	--
4	--	--	--	--	--	70	111	3.2
Total	109	167	212	201	118	170	111	3.2

Notes:

[1] Total electricity usage from SWCA's Energy Assessment report (July 2018).

[2] Yearly electricity usage split by fraction of phase in each year. Electricity usage and GHG emissions are same for both Project and Project Variant.

[3] See Table Ops-5 for CO_2e intensity factor calculations.

Abbreviations:

CO_2e - carbon dioxide equivalents
kWh - kilowatt hour
lb - pound
MT - metric ton
MWh - megawatt hour
yr - year

Table Con-5. Project Construction Trip Assumptions
3333 California Street
San Francisco, California

Phase	Trip Category	Total Trips[1]	Total Trip Length[2] (miles)
1	Worker	58,050	21
2		38,625	
3		69,570	
4		32,175	
1	Non-hauling	2,500	14
2		500	
3		3,500	
4		400	
1	Vendor	1,300	14
2		1,000	
3		1,500	
4		850	
1	Hauling (Hazardous Waste)	1,636	60
2		24	
3		1,631	
4		313	
1	Hauling (Non-Hazardous Waste)	3,271	17
2		48	
3		3,263	
4		626	
1		3,271	48
2		48	
3		3,263	
4		626	

Notes:

1. Trips were provided by the Project Sponsor.
2. Worker, non-hauling, and vendor trip lengths assume CalEEMod® default values. Hauling trip lengths were provided by the Project Sponsor.

Abbreviations:

CalEEMod® - California Emissions Estimator MODel

Table Con-6. Water Usage and Emissions from Construction Dust Control
3333 California St AB900
San Francisco, California

Usage Information[1]

Total water consumption	226,500	gallons
Energy intensity	0.005411	kWh/gallon
Total electricity use	1,226	kWh

Phase	Number of Days	Total Electricity (kWh)	Electricity by Year[2] (kWh)							
			2020	2021	2022	2023	2024	2025	2026	2027
1	147	509	172	206	130	--	--	--	--	--
2	20	69	--	11	35	23	--	--	--	--
3	147	509	--	--	13	172	172	151	--	--
4	40	138	--	--	--	--	--	52	84	2.5
Total	354	1,226	172	217	178	195	172	203	84	2.5

Phase	CO_2e Intensity Factor by Year[3] (lb CO_2e/MWh)							
	2020	2021	2022	2023	2024	2025	2026	2027
All	363	354	345	335	326	317	308	299

Phase	CO_2e Emissions by Year (MT/yr)							
	2020	2021	2022	2023	2024	2025	2026	2027
1	0.028	0.033	0.020	--	--	--	--	--
2	--	0.002	0.005	0.004	--	--	--	--
3	--	--	0.002	0.026	0.026	0.022	--	--
4	--	--	--	--	--	0.007	0.012	0.0003
Total	0.028	0.035	0.028	0.030	0.026	0.029	0.012	0.0003

Notes:

[1] Total water consumption and energy intensity from San Francisco Water Power Sewer's Water Supply Assessment and SWCA's Energy Assessment report.

[2] Yearly electricity usage split by fraction of phase in each year.

[3] See Table Ops-5 for CO_2e intensity factor calculations.

Abbreviations:

CO_2e - carbon dioxide equivalents
kWh - kilowatt hour
lb - pound
MT - metric ton
MWh - megawatt hour
yr - year

Table Ops-1a. Trip Rates - Existing Conditions
3333 California St AB900
San Francisco, California

Land Use Data		CalEEMod Defaults[1]						Driveway Count[2]				ITE Trips[2]		Calculated Rates[3]			
Land Use Sub-Type	Size	Weekday Trip Rate	Saturday Trip Rate	Sunday Trip Rate	Weekday Trips	Saturday Trips	Sunday Trips	AM Peak Hour	PM Peak Hour	Scaled AM Peak Hour Trips	Scaled PM Peak Hour Trips	% of Daily Trips in AM Count	% of Daily Trips in PM Count	Weekday Trip Counts	Weekday Trip Rate	Saturday Trip Rate	Sunday Trip Rate
	ksf	trips/ksf/day			trips/day			trips/hr	trips/hr	trips	trips	%	%	trips/day	trips/ksf/day		
General Office Building	352	11.03	2.46	1.05	3,883	866	370	266	296	218	243	8.2%	8.5%	2,758	7.84	1.75	0.75
Day-care Center	11.5	74.06	6.21	5.83	852	71	67			48	53	17.6%	18%	284	24.68	2.07	1.94

Notes:

[1] CalEEMod version 2016.3.2 default trip rates for San Francisco County, urban setting.

[2] AM and PM peak hour driveway counts and percent of daily trips in AM and PM count from Project Travel Demand Memorandum (Kittelson & Associates, March 2018). Scaled by land use using CalEEMod default trips.

[3] Weekday trip counts estimated by dividing AM and PM peak hour trips by ITE percent of daily trips in AM and PM trips and taking the average of the two values. Weekend trip rates estimated using ratio of CalEEMod default weekday to weekend rates.

Abbreviations:

hr - hour
ksf - thousand square feet
ITE - Institute of Transportation Engineers

Table Ops-1b. Trip Rates - Project and Project Variant
3333 California St AB900
San Francisco, California

Project[1]

Land Use Sub-Type	Size Metric	Size	Person-Trips	Adjusted Person-Trips	Vehicle Trips	Trip Rate
			(trips/day)	(trips/day)	(trips/day)	(trip/size/ day)
Apartments Mid Rise	Dwelling Unit	558	5,002	2,498	1,431	2.56
Open Space	Acre	5.42	0	0	0	0
Day-Care Center	1000sqft	14.69	984	491	281	19.16
Enclosed Parking Structure	Spaces	895	0	0	0	0
General Office Building	1000sqft	49.999	905	452	259	5.18
Parking Lot	1000sqft	10.836	0	0	0	0
Strip Mall	1000sqft	54.117	12,753	6,370	3,648	67.41

Variant[1]

Land Use Sub-Type	Size Metric	Size	Person-Trips	Adjusted Person-Trips	Vehicle Trips	Trip Rate
			(trips/day)	(trips/day)	(trips/day)	(trip/size/ day)
Apartments Mid Rise	Dwelling Unit	744	6,670	3,274	1,917	2.58
Open Space	Acre	5.42	0	0	0	0
Day-Care Center	1000sqft	14.65	984	483	283	19.30
Enclosed Parking Structure	Spaces	971	0	0	0	0
General Office Building	1000sqft	0	0	0	0	0
Parking Lot	1000sqft	10.836	0	0	0	0
Strip Mall	1000sqft	48.593	11,925	5,854	3,427	70.52

Notes:

[1] Project and Variant trip rates from the traffic memorandum (Kittelson & Associates, March 2018). Strip mall is assumed to include "General Retail", "Sit-Down", and "Composite" land uses. Daily person-trips are adjusted to remove double-counted internal trips, non-auto trips, and double-counted carpool trips. For emissions purposes, daily trips are assumed constant for weekdays and weekends. These factors are shown below.

Variable	Project	Variant
Total Vehicle-Trips/ Total Person-Trips	0.57	0.59
% internal, average	18.25	19.10
% external auto, average	61.10	60.68

Abbreviations:

1000sqft - thousand square feet

Table Ops-2. Existing Conditions Energy Emissions
3333 California St AB900
San Francisco, California

Energy Sector	Average Monthly Data[1]	Average Annual Usage	Usage Units	Emission Factor	Emissions Factor Units	CO_2e Emissions (MT/year)
Electricity	340	4,076	MWh	363	lbs CO_2e/MWh delivered	671
Natural Gas	1,028	12,332	MMBtu	117.77	lb CO_2e/MMBtu	659
					Total	1,330

Notes:

[1] Average monthly usage from PG&E bills July 2012 - September 2014. Data provided by Project Sponsor.

Abbreviations:

CO_2e - carbon dioxide equivalents
lb - pound
MMBTU - million British Thermal Units
MT - metric ton
MWh - megawatt-hour
PG&E - Pacific Gas and Electric

Table Ops-3. Electricity Intensity Factor Derivations
3333 California St AB900
San Francisco, California

	2014[1,2]	2015[1,3]	2016[1,4]	Average[5]	Units
CO_2 Intensity Factor per Total Energy Delivered	434.92	404.51	293.7	377.7	lbs CO_2/MWh delivered
% of Total Energy From Renewables	27%	29.5%	32.8%	29.8%	
CO_2 Intensity Factor per Total Non-Renewable Energy[6]	595.78	573.77	437	537.8	lbs CO_2/MWh delivered
Estimated Intensity Factor for Total Energy Delivered[7,8]					
2020 RPS (33%)	399.2	384.4	292.8	360.3	lbs CO_2/MWh delivered
	401.7	387.0	295.4	362.9	lbs CO_2e/MWh delivered
2030 RPS (50%)[9]	297.9	286.9	218.5	268.9	lbs CO_2/MWh delivered
	300.5	289.5	221.1	271.453	lbs CO_2e/MWh delivered
2050 RPS (80%)[10]	119.2	114.8	87.4	107.6	lbs CO_2/MWh delivered
	121.7	117.3	90.0	110.1	lbs CO_2e/MWh delivered

Notes:

[1] Total CO_2 emission factor from The Climate Registry. Available at: https://www.theclimateregistry.org/our-members/cris-public-reports/. Accessed: June 2018.

[2] Percent of total energy from eligible renewables is from the PGE 2015 Corporate Responsibility Report. Available at: http://www.pgecorp.com/corp_responsibility/reports/2015/PGE_CRSR_2015.pdf.

[3] Percent of total energy from eligible renewables is from the PGE 2016 Corporate Responsibility Report. Available at: http://www.pgecorp.com/corp_responsibility/reports/2016/PGE_CRSR_Environment.pdf.

[4] Percent of total energy from eligible renewables is from the PGE 2017 Corporate Responsibility Report. Available at: http://www.pgecorp.com/corp_responsibility/reports/2017/assets/PGE_CRSR_2017_Environment.pdf.

[5] This average uses the most recent three years of data.

[6] The emissions metric presented here is calculated based on the total CO_2 intensity factor divided by the percent of energy delivered from non-renewable sources.

[7] The intensity factor for total energy delivered is estimated by multiplying the percentage of energy delivered from non-renewable energy by the CO_2 emissions per total non-renewable energy metric calculated above. The estimate provided here and the energy reports issued by PGE assume that renewable energy sources do not result in any CO_2 emissions.

[8] Global Warming Potentials (GWP) are based on the IPCC Fourth Assessment Report. CH_4 and N_2O emission factors are from the CalEEMod version 2016.3.2 defaults for PGE, and are conservatively assumed not to change from these estimates. As more renewable energy is integrated into the electricity grid, these intensity factors will also decrease.

[9] Emission factor presented here is 50% projected RPS for 2030 consistent with SB 32 and SB 350. Available at: http://www.energy.ca.gov/sb350/.

[10] The projected 2050 RPS target is based on 80% RPS in 2050, consistent with the CARB Final 2017 Scoping Plan, Appendix D PATHWAYS, pg 12 (November, 2017). Available at: https://www.arb.ca.gov/cc/scopingplan/2030sp_appd_pathways_final.pdf

Abbreviations:

CARB - California Air Resources Board
CO_2 - carbon dioxide
GHG - greenhouse gases
IPCC - Intergovernmental Panel on Climate Change
lbs - pounds
MWh - megawatt-hour
RPS - Renewable Portfolio Standards
PGE - Pacific Gas & Electric
SB - Senate Bill

Table Ops-4. Stationary Source Emissions
3333 California St AB900
San Francisco, California

Stationary Source	Engine Tier	HP	Fuel Type	Operation[1]	CO_2e Emission Factor[2]	CO_2e Emissions
				hrs/yr	g/bhp-hr	MT/yr
Existing Generator	None	380	Diesel	20	523.5	4.0
Proposed Generator	Tier 2	1,073	Diesel	50	523.5	28.1

Notes:

[1] Operation of existing generator is 20 hours, based on the existing BAAQMD Permit. Operation of proposed generator is assumed to be 50 hours per year for routine maintenance and testing. This is consistent with the Maximum Allowed Testing Time from the Airborne Toxics Control Measure for Stationary Compression Ignition Engines (17 CCR 93115) for a Tier 2 engine.

[2] Generator emission factors are from CalEEMod and do not depend on engine tier.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
bhp - brake-horsepower
CO2e - carbon dioxide equivalents
g - grams
hrs - hours
MT - metric tons
yr - year

Table Ops-5. Electricity and Mobile Emission Factors
3333 California St AB900
San Francisco, California

Year	CO2e Intensity Factor	Fleet CO2e EF	Change in carbon intensity from previous year	Change in Fleet EF from previous year
	lb CO2e/MWh	metric ton/mi	%	%
2020	363	4.00E-04	--	--
2021	354	3.90E-04	-3%	-2%
2022	345	3.80E-04	-3%	-3%
2023	335	3.69E-04	-3%	-3%
2024	326	3.59E-04	-3%	-3%
2025	317	3.49E-04	-3%	-3%
2026	308	3.40E-04	-3%	-3%
2027	299	3.32E-04	-3%	-2%
2028	290	3.25E-04	-3%	-2%
2029	281	3.18E-04	-3%	-2%
2030	271	3.12E-04	-3%	-2%
2031	263	3.07E-04	-3%	-2%
2032	255	3.03E-04	-3%	-1%
2033	247	2.99E-04	-3%	-1%
2034	239	2.96E-04	-3%	-1%
2035	231	2.93E-04	-3%	-1%
2036	223	2.90E-04	-3%	-1%
2037	215	2.88E-04	-4%	-1%
2038	207	2.86E-04	-4%	-1%
2039	199	2.85E-04	-4%	-1%
2040	191	2.83E-04	-4%	0%
2041	183	2.82E-04	-4%	0%
2042	175	2.81E-04	-4%	0%
2043	167	2.81E-04	-5%	0%
2044	159	2.80E-04	-5%	0%
2045	150	2.80E-04	-5%	0%
2046	142	2.79E-04	-5%	0%
2047	134	2.79E-04	-6%	0%
2048	126	2.78E-04	-6%	0%
2049	118	2.78E-04	-6%	0%
2050	110	2.78E-04	-7%	0%
2051	110	2.78E-04	0%	0%
2052	110	2.78E-04	0%	0%
2053	110	2.78E-04	0%	0%
2054	110	2.78E-04	0%	0%
2055	110	2.78E-04	0%	0%

Year	CO2e Intensity Factor	Fleet CO2e EF	Change in carbon intensity from previous year	Change in Fleet EF from previous year
	lb CO2e/MWh	metric ton/mi	%	%
2056	110	2.78E-04	0%	0%
2057	110	2.78E-04	0%	0%

Notes:

[1] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[2] Approximation of the decrease in vehicle emission factors over time, based on San Francisco fleet-average emission factors from 2020-2050. Assumes no change after 2050, since EMFAC2017 does not project past 2050.

Abbreviations:

CO_2e - carbon dioxide equivalents

EF - emission factor

lb - pound

mi - mile

MWh - megawatt-hour

Table Ops-6. Project Operational CO_2e Emissions by Year
3333 California St AB900
San Francisco, California

Year	CO_2e (MT/yr)[3]											
	Area	Energy		Mobile[2]	Waste	Water		Stationary Source[4]	Construction	Solar Reductions	Vegetation Reduction	Total
		Electricity[1]	Natural Gas			Treatment	Transportation					
2020	--	--	--	--	--	--	--	--	541	0	0	541
2021	--	--	--	--	--	--	--	--	733	0	0	733
2022	4	74	65	233	2	4	2	--	732	-45	0	1,071
2023	14	245	235	761	7	13	8	9	752	-56	0	1,988
2024	20	334	347	1,019	10	19	11	28	564	-55	0	2,297
2025	21	367	369	1,286	13	20	11	28	664	-256	0	2,522
2026	27	664	529	3,408	36	27	14	28	277	-252	0	4,759
2027	29	681	567	3,412	37	29	15	28	8	-290	-13	4,504
2028	29	662	568	3,339	37	29	15	28	--	-284	-13	4,410
2029	29	641	568	3,271	37	29	14	28	--	-279	-13	4,326
2030	29	620	568	3,211	37	29	14	28	--	-273	-13	4,251
2031	29	602	568	3,159	37	29	13	28	--	-268	-13	4,184
2032	29	583	568	3,112	37	29	13	28	--	-264	-13	4,123
2033	29	565	568	3,072	37	29	12	28	--	-259	-13	4,069
2034	29	546	568	3,037	37	29	12	28	--	-254	-13	4,021
2035	29	528	568	3,008	37	29	12	28	--	-249	-13	3,977
2036	29	510	568	2,982	37	29	11	28	--	-244	-13	3,937
2037	29	491	568	2,960	37	29	11	28	--	-240	-13	3,901
2038	29	473	568	2,941	37	29	10	28	--	-235	-13	3,868
2039	29	454	568	2,926	37	29	10	28	--	-230	-13	3,839
2040	29	436	568	2,913	37	29	10	28	--	-225	-13	3,812
2041	29	417	568	2,902	37	29	9	28	--	-220	-13	3,787
2042	29	399	568	2,893	37	29	9	28	--	-215	-13	3,764
2043	29	381	568	2,885	37	29	8	28	--	-211	-13	3,742
2044	29	362	568	2,879	37	29	8	28	--	-206	-13	3,722
2045	29	344	568	2,874	37	29	8	28	--	-201	-13	3,702
2046	29	325	568	2,868	37	29	7	28	--	-196	-13	3,683
2047	29	307	568	2,863	37	29	7	28	--	-191	0	3,677
2048	29	288	568	2,859	37	29	6	28	--	-187	0	3,658
2049	29	270	568	2,855	37	29	6	28	--	-182	0	3,641
2050	29	252	568	2,853	37	29	6	28	--	-177	0	3,625
2051	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2052	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2053	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2054	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2055	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2056	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2057	29	252	568	2,853	37	29	6	28	--	-177	0	3,625

Notes:

[1] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[2] Approximation of the decrease in vehicle emission factors over time, based on San Francisco fleet-average emission factors from 2020-2050. Assumes no change after 2050, since EMFAC2017 does not project past 2050.

[3] Assume all buildings become operational as soon as phase is constructed, based on percent of operational land uses by Phase as shown in Table Ops-16. The only changes in emissions are due to transportation and electricity becoming cleaner.

[4] Assumes generator operational with phase 2

Abbreviations:

AB - Assembly Bill
CARB - California Air Resources Board
CO_2e - carbon dioxide equivalent
EMFAC - CARB Emissions Factor model
g - gram
lb - pound
mi - mile
MWh - megawatt-hour
MT - metric ton
RPS - Renewables Portfolio Standard

Table Ops-7. Project Variant Operational CO_2e Emissions by Year
3333 California St AB900
San Francisco, California

Year	CO_2e (MT/yr)[3]											
	Area	Energy		Mobile[2]	Waste	Water		Stationary Source	Construction	Solar Reductions	Vegetation Reduction	Total
		Electricity[1]	Natural Gas			Treatment	Transportation					
2020	--	--	--	--	--	--	--	--	541	0	0	541
2021	--	--	--	--	--	--	--	--	733	0	0	733
2022	3.8	68	58	238	2	3.5	2.1	--	732	-45	0	1,063
2023	14	225	209	774	6	12	7	9	752	-56	0	1,953
2024	20	304	309	1,033	8	18	11	28	564	-55	0	2,242
2025	22	346	344	1,305	11	20	11	28	664	-256	0	2,496
2026	37	702	603	3,467	31	34	18	28	277	-252	0	4,946
2027	39	716	637	3,470	32	36	19	28	8	-290	-13	4,682
2028	39	695	638	3,396	32	36	18	28	--	-284	-13	4,585
2029	39	673	638	3,326	32	36	18	28	--	-279	-13	4,498
2030	39	651	638	3,266	32	36	17	28	--	-273	-13	4,421
2031	39	632	638	3,212	32	36	17	28	--	-268	-13	4,352
2032	39	612	638	3,165	32	36	16	28	--	-264	-13	4,290
2033	39	593	638	3,125	32	36	16	28	--	-259	-13	4,235
2034	39	574	638	3,089	32	36	15	28	--	-254	-13	4,184
2035	39	554	638	3,059	32	36	15	28	--	-249	-13	4,139
2036	39	535	638	3,033	32	36	14	28	--	-244	-13	4,098
2037	39	516	638	3,010	32	36	14	28	--	-240	-13	4,060
2038	39	496	638	2,991	32	36	13	28	--	-235	-13	4,026
2039	39	477	638	2,975	32	36	13	28	--	-230	-13	3,995
2040	39	458	638	2,962	32	36	12	28	--	-225	-13	3,967
2041	39	438	638	2,951	32	36	12	28	--	-220	-13	3,941
2042	39	419	638	2,942	32	36	11	28	--	-215	-13	3,917
2043	39	399	638	2,934	32	36	10	28	--	-211	-13	3,894
2044	39	380	638	2,928	32	36	10	28	--	-206	-13	3,872
2045	39	361	638	2,923	32	36	9	28	--	-201	-13	3,852
2046	39	341	638	2,917	32	36	9	28	--	-196	-13	3,832
2047	39	322	638	2,912	32	36	8	28	--	-191	0	3,824
2048	39	303	638	2,907	32	36	8	28	--	-187	0	3,805
2049	39	283	638	2,904	32	36	7	28	--	-182	0	3,786
2050	39	264	638	2,902	32	36	7	28	--	-177	0	3,769
2051	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2052	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2053	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2054	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2055	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2056	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2057	39	264	638	2,902	32	36	7	28	--	-177	0	3,769

Notes:

[1] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[2] Approximation of the decrease in vehicle emission factors over time, based on San Francisco fleet-average emission factors from 2020-2050. Assumes no change after 2050, since EMFAC2017 does not project past 2050.

[3] Assume all buildings become operational as soon phase is constructed, based on percent of operational land uses by Phase as shown in Table Ops-16.. The only changes in emissions are due to transportation and electricity becoming cleaner.

[4] Assumes generator operational with phase 2.

Abbreviations:

AB - Assembly Bill
CARB - California Air Resources Board
CO_2e - carbon dioxide equivalent
EMFAC - CARB Emissions Factor model
g - gram
lb - pound
mi - mile
MWh - megawatt-hour
MT - metric ton
RPS - Renewables Portfolio Standard

Table Ops-8. Energy and Water Use Values
3333 California St AB900
San Francisco, California

Scaled Building Energy Use (kBTU/year)[1]

Building Type	Project Case		Project Variant	
	Natural Gas	Electricity	Natural Gas	Electricity
Apartments	9,289,299	8,968,899	11,023,050	10,642,850
Day-Care Center	96,402	278,149	96,139	277,392
Parking Structure	0	5,374,715	0	5,454,439
General Office Building	330,377	708,129	0	0
Parking Lot	0	0	0	0
Strip Mall	922,059	1,853,528	827,940	1,664,329
Total (kBTU/yr)	**10,638,137**	**17,183,420**	**11,947,129**	**18,039,010**

Water Use and Electricity for Water Use[2]

Type	Water				Electricity to Supply, Treat, and Distribute Water			
	Project Case		Project Variant		Project		Project Variant	
	Indoor (gal)	Outdoor (gal)	Indoor (gal)	Outdoor (gal)	kWh/year	Kwh/gal	kWh/year	Kwh/gal
Commercial	422,000	0	229,000	0	2,280	0.0054	1,238	0.0054
Residential	17,125,000	0	22,398,000	0	92,663	0.0054	121,194	0.0054
HVAC/Cooling	1,995,000	0	1,995,000	0	10,795	0.0054	10,795	0.0054
Landscape/Irrigation	0	1,626,000	0	1,626,000	5,689	0.0035	5,689	0.0035
Total	**19,542,000**	**1,626,000**	**24,622,000**	**1,626,000**	**111,427**	**-**	**138,916**	**-**

Distributing Water Use for CalEEMod Land Uses[3]

Land Use Sub-Type	CalEEMod Default Indoor Water Use	Project Case				Project Variant			
	(gal/land use size/year)	Land Use	Land Use (sq ft)	Indoor (gal/year)	Outdoor (gal/year)	Land Use	Land Use (sq ft)	Indoor (gal/year)	Outdoor (gal/year)
Apartments (DU)	65,154	558	824,691	18,868,788	0	744	978,611	24,271,899	0
Open Space (Acres)	0	5.42	236,000	0	1,626,000	5.42	236,000	-	1,626,000
Day-Care Center (ksf)	42,890	14.69	14,690	50,720	0	14.65	14,650	62,087	
General Office Building (ksf)	177,734	49.999	49,999	382,990	0	0	0	0	0
Strip Mall (ksf)	74,073	54.117	54,117	239,502	0	48.593	48,593	288,014	0
Total	-	-	-	**19,542,000**	**1,626,000**	**-**	**-**	**24,622,000**	**1,626,000**

Notes:

[1] From 3333 California CEQA Energy Inputs, Arup (January 2018), Tables 10 and 11, including energy conservation measures. CEQA Energy Inputs is supporting information for the Energy Assessment.

[2] From 3333 California CEQA Energy Inputs, Arup (January 2018), Tables 4 and 5. CEQA Energy Inputs is supporting information for the Energy Assessment.

[3] Water use is distributed among land uses on a square footage basis for CalEEMod purposes. The total water use is from San Francisco Water Power Sewer's Water Supply Assessment (June 2017) which is summarized in the Energy Assessment.

Abbreviations:

DU - dwelling units
gal - gallon
kBTU - thousand British Thermal Units
sq ft - square feet

Table Ops-9. GHG Emissions Reductions from Solar Energy
3333 California St AB900
San Francisco, California

Energy Assessment Solar Data by Building and Phase[1]

Building	Proposed Total Solar Equipment Area (sqft)	Estimated PV Energy Output (kBTU/year)	Estimated Solar Hot Water Energy Output (kBTU/year)	Construction Phase
Center Building A	0	0	0	2
Center Building B	2,597	180,864	82,000	2
Plaza A Building	12,190	795,497	380,000	3
Plaza B Building	11,812	828,163	384,000	3
Walnut Building	19,771	1,397,159	635,000	3
Masonic Building	0	0	0	1
Euclid Building	9,036	638,342	289,000	1
Laurel Duplexes	6,384	394,514	207,000	4
Mayfair Building	3,550	251,107	107,000	4
Total	**65,340**	**4,485,646**	**2,084,000**	

Year-By-Year Reductions due to Solar

Year	CO_2e Intensity Factor (lb CO_2e/MWh)[2]	Solar PV Reductions (MT)	CO_2e Intensity Factor NG (lb CO_2e/kBTU)[3]	Solar Heating Reductions (MT)	Latest completed Phase[4]
2020	363	0	0.118	0	-
2021	354	0	0.118	0	-
2022	345	-29	0.118	-15	1
2023	335	-37	0.118	-20	2
2024	326	-36	0.118	-20	2
2025	317	-162	0.118	-95	3
2026	308	-157	0.118	-95	3
2027	299	-178	0.118	-111	4
2028	290	-173	0.118	-111	4
2029	281	-167	0.118	-111	4
2030	271	-162	0.118	-111	4
2031	263	-157	0.118	-111	4
2032	255	-152	0.118	-111	4
2033	247	-147	0.118	-111	4
2034	239	-143	0.118	-111	4
2035	231	-138	0.118	-111	4
2036	223	-133	0.118	-111	4
2037	215	-128	0.118	-111	4
2038	207	-123	0.118	-111	4
2039	199	-119	0.118	-111	4
2040	191	-114	0.118	-111	4
2041	183	-109	0.118	-111	4
2042	175	-104	0.118	-111	4
2043	167	-99	0.118	-111	4
2044	159	-95	0.118	-111	4
2045	150	-90	0.118	-111	4
2046	142	-85	0.118	-111	4
2047	134	-80	0.118	-111	4
2048	126	-75	0.118	-111	4
2049	118	-70	0.118	-111	4

Year	CO_2e Intensity Factor (lb CO_2e/MWh)[2]	Solar PV Reductions (MT)	CO_2e Intensity Factor NG (lb CO_2e/kBTU)[3]	Solar Heating Reductions (MT)	Latest completed Phase[4]
2050	110	-66	0.118	-111	4
2051	110	-66	0.118	-111	4
2052	110	-66	0.118	-111	4
2053	110	-66	0.118	-111	4
2054	110	-66	0.118	-111	4
2055	110	-66	0.118	-111	4
2056	110	-66	0.118	-111	4
2057	110	-66	0.118	-111	4

Notes:

[1] From SWCA's Energy Assessment (July 2018), Table 10.

[2] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[3] CO_2e intensity factor for natural gas is from CalEEMod Appendix D.

[4] The solar for each building is assumed to become active when the relevant Phase is complete.

Abbreviations:

CalEEMod - California Emissions Estimator Model
CO_2e - carbon dioxide equivalents
kBTU - thousand British Thermal Units
lb - pound
MT - metric ton
MWh - megawatt-hour
sqft - square feet

Table Ops-10. Energy Emissions Year-by-Year
3333 California St AB900
San Francisco, California

Year	CO2e Intensity Factor[1]		Project Case[2]				Project Variant[2]			
	Electricity	Natural Gas	Electricity Use[3]	Natural Gas Use[3]	Electricity Emissions	Natural Gas Emissions	Electricity Use[3]	Natural Gas Use[3]	Electricity Emissions	Natural Gas Emissions
	lb CO2e/MWh	lb CO2e/kBTU	MWh	kBTU	MT CO2e/year		MWh	kBTU	MT CO2e/year	
2020	363	0.118	0	0	0	0	0	0	0	0
2021	354	0.118	0	0	0	0	0	0	0	0
2022	345	0.118	473	1,224,705	74	65	436	1,092,913	68	58
2023	335	0.118	1,612	4,393,180	245	235	1,478	3,917,878	225	209
2024	326	0.118	2,255	6,498,974	334	347	2,055	5,791,991	304	309
2025	317	0.118	2,550	6,900,308	367	369	2,405	6,440,318	346	344
2026	308	0.118	4,754	9,905,647	664	529	5,027	11,295,228	702	603
2027	299	0.118	5,027	10,614,055	681	567	5,278	11,925,697	716	637
2028	290	0.118	5,036	10,638,137	662	568	5,287	11,947,129	695	638
2029	281	0.118	5,036	10,638,137	641	568	5,287	11,947,129	673	638
2030	271	0.118	5,036	10,638,137	620	568	5,287	11,947,129	651	638
2031	263	0.118	5,036	10,638,137	602	568	5,287	11,947,129	632	638
2032	255	0.118	5,036	10,638,137	583	568	5,287	11,947,129	612	638
2033	247	0.118	5,036	10,638,137	565	568	5,287	11,947,129	593	638
2034	239	0.118	5,036	10,638,137	546	568	5,287	11,947,129	574	638
2035	231	0.118	5,036	10,638,137	528	568	5,287	11,947,129	554	638
2036	223	0.118	5,036	10,638,137	510	568	5,287	11,947,129	535	638
2037	215	0.118	5,036	10,638,137	491	568	5,287	11,947,129	516	638
2038	207	0.118	5,036	10,638,137	473	568	5,287	11,947,129	496	638
2039	199	0.118	5,036	10,638,137	454	568	5,287	11,947,129	477	638
2040	191	0.118	5,036	10,638,137	436	568	5,287	11,947,129	458	638
2041	183	0.118	5,036	10,638,137	417	568	5,287	11,947,129	438	638
2042	175	0.118	5,036	10,638,137	399	568	5,287	11,947,129	419	638
2043	167	0.118	5,036	10,638,137	381	568	5,287	11,947,129	399	638
2044	159	0.118	5,036	10,638,137	362	568	5,287	11,947,129	380	638
2045	150	0.118	5,036	10,638,137	344	568	5,287	11,947,129	361	638
2046	142	0.118	5,036	10,638,137	325	568	5,287	11,947,129	341	638
2047	134	0.118	5,036	10,638,137	307	568	5,287	11,947,129	322	638
2048	126	0.118	5,036	10,638,137	288	568	5,287	11,947,129	303	638
2049	118	0.118	5,036	10,638,137	270	568	5,287	11,947,129	283	638
2050	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2051	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2052	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2053	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2054	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2055	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2056	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2057	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638

Notes:

[1] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[2] Does not include the benefits of solar photovoltaics or solar water heating. These are shown in Table Ops-9.

[3] While construction is underway, energy use is based on the percent of operational land uses by Phase as shown in Table Ops-16.

Abbreviations:

CO_2e - carbon dioxide equivalents
EF - emission factor
lb - pound
kBTU - thousand British Thermal Units
MT - metric ton
MWh - megawatt-hour

Table Ops-11. Wastewater Treatment Types and Electricity Intensity
3333 California St AB900
San Francisco, California

Wastewater Electricity Intensity

County	Electricity to Treat Wastewater (kWh/million gal)[1]
San Francisco	1,911

Wastewater Treatment Types[2]

County	Septic Tank	Aerobic	Anaerobic, Facultative Lagoons	Anaerobic, Combustion of Gas	Anaerobic, Cogeneration of Gas
San Francisco	10.33%	87.46%	2.21%	100%	0%

Wastewater Treatment Direct Emission Factors[3]

Wastewater Treatment Type	CO_2 Biogenic, ton/gal	CO_2 Non-Biogenic, ton/gal	CH_4, ton/gal	N_2O, ton/gal
Septic	0	0	2.50E-07	8.48E-10
Aerobic	3.90E-07	0	1.34E-09	8.48E-10
Anaerobic Facultative	3.90E-07	0	4.02E-07	8.48E-10
Digester Burn	0	0	0	0
Digester Cogen	0	0	0	0

Notes:

[1] Water Electricity Intensity from Table 9.2 of Appendix D of the CalEEMod User's Guide.
[2] Water Treatment Types from Table 9.3 of Appendix D of the CalEEMod User's Guide.
[3] Wastewater Treatment Direct Emission Factors from Table 9.4 of Appendix D of the CalEEMod User's Guide.

Abbreviations:

CalEEMod - California Emissions Estimator Model
CH_4 - methane
CO_2 - carbon dioxide
gal - gallon
kWh - kilowatt-hours
N_2O - nitrogen oxides

Table Ops-12. Water Treatment Emissions
3333 California St AB900
San Francisco, California

Land Use	Project Case				Project Variant			
	Septic Tank Direct Emissions	**Aerobic Direct Emissions**	**Facultative Lagoon Direct Emissions**	**Total Treatment Emissions**	**Septic Tank Direct Emissions**	**Aerobic Direct Emissions**	**Facultative Lagoon Direct Emissions**	**Total Treatment Emissions**
	MT CO2e/year							
Apartments (DU)	11.51	10.12	4.04	25.68	14.81	13.02	5.20	33.04
Day-Care Center (ksf)	0.03	0.03	0.01	0.07	0.04	0.03	0.01	0.08
Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Office Building (ksf)	0.23	0.21	0.08	0.52	0.00	0.00	0.00	0.00
Strip Mall (ksf)	0.15	0.13	0.05	0.33	0.18	0.15	0.06	0.39
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Open Space (Acres)	0.99	0.87	0.35	2.21	0.99	0.87	0.35	2.21
Total	**12.92**	**11.36**	**4.54**	**28.81**	**16.02**	**14.08**	**5.63**	**35.73**

Notes:

[1] Treatment factors are shown in Table Ops-11.

[2] Water usage is shown in Table Ops-8.

Abbreviations:

CO_2e - carbon dioxide equivalents

DU - dwelling units

ksf - thousand square feet

MT - metric tons

Table Ops-13. Water Emissions Year-by-Year
3333 California St AB900
San Francisco, California

Year	CO2e Intensity Factor	Project Case			Variant		
		Electricity Consumption[1]	Distribution Emissions	Treatment Emissions[2]	Electricity Consumption[1]	Distribution Emissions	Treatment Emissions[2]
	lb CO_2e/MWh	MWh	MT CO_2e		MWh	MT CO_2e	
2020	363	0	0	0	0	0	0
2021	354	0	0	0	0	0	0
2022	345	14	2.2	3.6	13	2.1	3.5
2023	335	50	7.6	13	48	7.4	12
2024	326	74	11	19	72	11	18
2025	317	78	11	20	79	11	20
2026	308	103	14	27	131	18	34
2027	299	111	15	29	139	19	36
2028	290	111	15	29	139	18	36
2029	281	111	14	29	139	18	36
2030	271	111	14	29	139	17	36
2031	263	111	13	29	139	17	36
2032	255	111	13	29	139	16	36
2033	247	111	12	29	139	16	36
2034	239	111	12	29	139	15	36
2035	231	111	12	29	139	15	36
2036	223	111	11	29	139	14	36
2037	215	111	11	29	139	14	36
2038	207	111	10	29	139	13	36
2039	199	111	10	29	139	13	36
2040	191	111	10	29	139	12	36
2041	183	111	9.2	29	139	12	36
2042	175	111	8.8	29	139	11	36
2043	167	111	8.4	29	139	10	36
2044	159	111	8.0	29	139	10	36
2045	150	111	7.6	29	139	9.5	36
2046	142	111	7.2	29	139	9.0	36
2047	134	111	6.8	29	139	8.5	36
2048	126	111	6.4	29	139	8.0	36
2049	118	111	6.0	29	139	7.4	36
2050	110	111	5.6	29	139	6.9	36
2051	110	111	5.6	29	139	6.9	36
2052	110	111	5.6	29	139	6.9	36
2053	110	111	5.6	29	139	6.9	36
2054	110	111	5.6	29	139	6.9	36
2055	110	111	5.6	29	139	6.9	36
2056	110	111	5.6	29	139	6.9	36
2057	110	111	5.6	29	139	6.9	36

Notes:

[1] Electricity use is calculated based on phased water use and usage factors from the Energy Assessment (SWCA, July 2018) and supporting Water Supply Assessment (San Francisco Water Power Sewer, June 2017) and CEQA Energy Inputs (Arup, 2018). While construction is underway, water use is based on the percent of operational land uses by Phase as shown in Table Ops-16. Electricity Usage Factors taken from the Energy Assessment are shown below.

Indoor (kwh/gal)	Outdoor (kwh/gal)
0.0054	0.0035

[2] Emissions from wastewater treatment are calculated in Table Ops-12.

Abbreviations:

CO_2e - carbon dioxide equivalents
lb - pounds
MT - metric tons
MWh - megawatt-hour

Table Ops-14. Waste Generation and Emissions
3333 California St AB900
San Francisco, California

Space Type	Project		Variant	
	Waste Generated	CO_2e Emissions[1]	Waste Generated	CO_2e Emissions[1]
	Cubic yards/day	MT/yr	Cubic yards/day	MT/yr
Residential	18.3	12.9	19.8	13.9
Commercial	34	23.9	25.5	17.9
Total	**52.5**	**36.8**	**45.3**	**31.8**

Land Use[2]	Total CO_2e (MT/yr)	
	Project	Variant
Apartments	13	14
Day-Care Center	3.0	4.1
Parking Structure	0	0
General Office Building	10	0
Parking Lot	0	0
Retail	11	14

Year	Total CO_2e (MT/yr)[3]	
	Project	Variant
2022	2.0	1.8
2023	6.9	6.1
2024	9.8	8.4
2025	13	11
2026	36	31
2027	37	32
2028	37	32

Notes:

[1] Total waste emissions are from CEQA Energy Inputs (ARUP, January 2018).

[2] Commercial waste generation was split by total land uses among daycare, office, and retail based on square footage.

[3] While construction is underway, waste is based on the percent of operational land uses by Phase as shown in Table Ops-16.

Abbreviations:

CO_2e - carbon dioxide equivalents

MT - metric tons

yr - year

Table Ops-15. GHG Emissions Sequestration from Vegetation
3333 California St AB900
San Francisco, California

Number of Net New Trees[1]	Units	Broad Species Class	Annual CO_2 accumulation per tree (MT CO_2/tree/year)[2]	Project GHG Sequestration (MT CO_2e)
162	Trees	Miscellaneous	-0.0354	-115
Number of Net New Acres[1]	**Units**	**Vegetation Land Use Subtype**	**Annual CO_2 accumulation per acre (MT CO_2/acre/year)[2]**	**Project GHG Sequestration (MT CO_2e)**
1.63	Acres	Grassland	-4.31	-140
			Total, Trees and Acres Covered	-255

Notes:

1. Number of net new trees from Project Description. Total number of trees - number of existing trees
2. From CalEEMod User's Guide Appendix A.
3. All vegetation types are assumed to have a growing period of 20 years.

Abbreviations:

CO_2e - carbon dioxide equivalents

MT - metric tones

Table Ops-16. Phased Land Use
3333 California St AB900
San Francisco, California

Land Use	Size Metric	Phase[1]					% Total in Phase[2]			
		Phase 1	Phase 2	Phase 3	Phase 4	All	Phase 1	Phase 2	Phase 3	Phase 4
Project Case										
Apartments	DU	196	190	128	44	558	35%	34%	23%	8%
Day-Care Center	ksf	0	0	14.69	0.00	14.69	0%	0%	100%	0%
Parking Structure	ksf	87.98	19.26	301.06	20.48	428.77	21%	4%	70%	5%
General Office Building	ksf	0	0	50.00	0.00	50	0%	0%	100%	0%
Parking Lot	ksf	3.936	2.51	3.82	0.58	10.84	36%	23%	35%	5%
Retail	ksf	4.287	0	49.83	0	54.12	8%	0%	92%	0%
Open Space	acre	1.42	1.35	2.19	0.46	5.42	26%	25%	40%	9%
Project Variant										
Apartments	DU	196	190	314	44	744	26%	26%	42%	6%
Day-Care Center	ksf	0	0	14.65	0.00	14.65	0%	0%	100%	0%
Parking Structure	ksf	87.98	19.26	307.42	20.48	435.13	20%	4%	71%	5%
General Office Building	ksf	0	0	-	0.00	0	-	-	-	-
Parking Lot	ksf	3.94	2.51	6.18	0.58	13.2	30%	19%	47%	4%
Retail	ksf	4.29	0	44.31	0	48.59	9%	0%	91%	0%
Open Space	acre	1.42	1.35	2.19	0.46	5.42	26%	25%	40%	9%

Notes:

[1] Land use totals and Phase descriptions provided by Project sponsor.

[2] Percent of total in Phase is used to quantify emissions at buildout of each Phase. Phases 1, 2, 3, and 4 are assumed to be operational in 2022, 2023, 2025, and 2027, respectively.

Abbreviations:

DU - dwelling units

ksf - thousand square feet

Table Ops-17. Area and Mobile Emissions by Phase
3333 California St AB900
San Francisco, California

Phase[1]	Operational Year	% Change in Mobile Emissions Factor[2]	Project		Variant	
			Area	Mobile	Area	Mobile
			CO_2e (MT/yr)[3]			
1	2022	--	3.8	233	3.8	238
1	2023	-2.81%	10	618	10	630
1	2024	-2.67%	10	602	10	613
1	2025	-2.82%	10	585	10	596
1	2026	-2.54%	10	570	10	580
1	2027	-2.39%	10	556	10	567
1	2028	-2.23%	10	544	10	554
2	2022	--	0	0	0	0
2	2023	-2.81%	3.3	143	3.3	144
2	2024	-2.67%	10	417	10	421
2	2025	-2.82%	10	406	10	409
2	2026	-2.54%	10	395	10	398
2	2027	-2.39%	10	386	10	389
2	2028	-2.23%	10	377	10	380
3	2022	--	0	0	0	0
3	2023	-2.81%	0	0	0	0
3	2024	-2.67%	0	0	0	0
3	2025	-2.82%	0.8	295	1.9	301
3	2026	-2.54%	6.7	2,443	17	2,488
3	2027	-2.39%	6.7	2,384	17	2,428
3	2028	-2.23%	6.7	2,331	17	2,374
4	2022	--	0	0	0	0
4	2023	-2.81%	0	0	0	0
4	2024	-2.67%	0	0	0	0
4	2025	-2.82%	0	0	0	0
4	2026	-2.54%	0	0	0	0
4	2027	-2.39%	2.2	85	2.2	86
4	2028	-2.23%	2.3	86	2.3	87

Notes:

[1] Operational year and fraction of operation in Table Ops-16.

[2] Mobile emissions change is shown in Table Ops-5.

[3] Area and mobile emissions from buildout year for each Phase are from CalEEMod outputs. Emissions from energy, water, waste, stationary sources, and reductions from solar and vegetation are shown in Tables Ops-7 and Ops-8.

Abbreviations:

CO_2e - carbon dioxide equivalents

MT - metric ton

yr - year

APPENDIX 2
CALEEMOD® OUTPUT FILES

3333 CalSF Existing Emissions - 2020

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	352.00	1000sqft	8.08	352,000.00	0
Day-Care Center	11.50	1000sqft	0.26	11,500.00	0
Enclosed Parking Structure	212.00	Space	1.91	105,500.00	0
Parking Lot	331.00	Space	2.98	134,680.00	0
City Park	3.79	Acre	3.79	165,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	360.31	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3333 CalSF Existing Emissions - 2020 - San Francisco County, Annual

Project Characteristics - Updated CO2 Intensity Factor

Land Use - Parking area updated based on initial study.

Construction Phase - Construction not evaluated.

Grading -

Architectural Coating -

Vehicle Trips - Trip rates based on data from traffic engineers dated March 2018.

Consumer Products - Updated ROG EF

Energy Use - Not modeling energy use for baseline operations

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.51E-05
tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	LightingElect	2.63	0.00
tblEnergyUse	LightingElect	4.34	0.00
tblEnergyUse	LightingElect	0.88	0.00
tblEnergyUse	NT24E	1.27	0.00
tblEnergyUse	NT24E	4.80	0.00
tblEnergyUse	NT24NG	1.62	0.00
tblEnergyUse	NT24NG	1.01	0.00
tblEnergyUse	T24E	0.86	0.00
tblEnergyUse	T24E	3.92	0.00

tblEnergyUse	T24E	5.42	0.00
tblEnergyUse	T24NG	17.50	0.00
tblEnergyUse	T24NG	22.58	0.00
tblLandUse	LandUseSquareFeet	84,800.00	105,500.00
tblLandUse	LandUseSquareFeet	132,400.00	134,680.00
tblLandUse	LandUseSquareFeet	165,092.40	165,200.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	360.31
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	6.21	2.07
tblVehicleTrips	ST_TR	2.46	1.75
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.83	1.94
tblVehicleTrips	SU_TR	1.05	0.75
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	74.06	24.68
tblVehicleTrips	WD_TR	11.03	7.84

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2141	8.0000e-005	8.4200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
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	0.6616	2.6104	7.1980	0.0240	1.9679	0.0333	2.0012	0.5304	0.0314	0.5618	0.0000	2,196.9475	2,196.9475	0.0982	0.0000	2,199.4035
Waste						0.0000	0.0000		0.0000	0.0000	69.5528	0.0000	69.5528	4.1105	0.0000	172.3142
Water						0.0000	0.0000		0.0000	0.0000	20.0046	81.0050	101.0096	2.0612	0.0499	167.3986
Total	**1.8758**	**2.6105**	**7.2064**	**0.0240**	**1.9679**	**0.0333**	**2.0013**	**0.5304**	**0.0314**	**0.5618**	**89.5574**	**2,277.9687**	**2,367.5262**	**6.2699**	**0.0499**	**2,539.1337**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2141	8.0000e-005	8.4200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
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	0.6616	2.6104	7.1980	0.0240	1.9679	0.0333	2.0012	0.5304	0.0314	0.5618	0.0000	2,196.9475	2,196.9475	0.0982	0.0000	2,199.4035
Waste						0.0000	0.0000		0.0000	0.0000	69.5528	0.0000	69.5528	4.1105	0.0000	172.3142
Water						0.0000	0.0000		0.0000	0.0000	20.0046	81.0050	101.0096	2.0612	0.0499	167.3986
Total	**1.8758**	**2.6105**	**7.2064**	**0.0240**	**1.9679**	**0.0333**	**2.0013**	**0.5304**	**0.0314**	**0.5618**	**89.5574**	**2,277.9687**	**2,367.5262**	**6.2699**	**0.0499**	**2,539.1337**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/17/2018	5/16/2018	5	0	
2	Site Preparation	Site Preparation	6/14/2018	6/13/2018	5	0	
3	Grading	Grading	6/28/2018	6/27/2018	5	0	
4	Building Construction	Building Construction	8/9/2018	8/8/2018	5	0	
5	Paving	Paving	10/3/2019	10/2/2019	5	0	
6	Architectural Coating	Architectural Coating	10/31/2019	10/30/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 4.89

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 545,250; Non-Residential Outdoor: 181,750; Striped Parking Area: 14,411 (Architectural Coating – sqft)

OffRoad Equipment

3333 CalSF Existing Emissions - 2020 - San Francisco 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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	288.00	126.00	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	58.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

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

3.2 Demolition - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.2 Demolition - 2018

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

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

3.4 Grading - 2018

Unmitigated Construction On-Site

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

3.4 Grading - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.4 Grading - 2018

Mitigated Construction Off-Site

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

3.5 Building Construction - 2018

Unmitigated Construction On-Site

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

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.5 Building Construction - 2018

Mitigated Construction Off-Site

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

3.6 Paving - 2019

Unmitigated Construction On-Site

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

3.6 Paving - 2019

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.6 Paving - 2019

Mitigated Construction Off-Site

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

3.7 Architectural Coating - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6616	2.6104	7.1980	0.0240	1.9679	0.0333	2.0012	0.5304	0.0314	0.5618	0.0000	2,196.9475	2,196.9475	0.0982	0.0000	2,199.4035
Unmitigated	0.6616	2.6104	7.1980	0.0240	1.9679	0.0333	2.0012	0.5304	0.0314	0.5618	0.0000	2,196.9475	2,196.9475	0.0982	0.0000	2,199.4035

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Day-Care Center	283.82	23.81	22.31	246,497	246,497
Enclosed Parking Structure	0.00	0.00	0.00		
General Office Building	2,759.68	616.00	264.00	5,011,107	5,011,107
Parking Lot	0.00	0.00	0.00		
Total	3,043.50	639.81	286.31	5,257,604	5,257,604

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	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
City Park	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
Day-Care Center	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
Enclosed Parking Structure	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
General Office Building	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460
Parking Lot	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460

5.0 Energy Detail

Historical Energy Use: Y

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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	0.0000
Day-Care Center	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	0.0000
Enclosed Parking Structure	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	0.0000
General Office Building	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	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	0.0000
Day-Care Center	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	0.0000
Enclosed Parking Structure	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	0.0000
General Office Building	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	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**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	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

	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	1.2141	8.0000e-005	8.4200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Unmitigated	1.2141	8.0000e-005	8.4200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1946					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0188					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.9000e-004	8.0000e-005	8.4200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Total	**1.2141**	**8.0000e-005**	**8.4200e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0163**	**0.0163**	**4.0000e-005**	**0.0000**	**0.0174**

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	0.1946					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0188					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.9000e-004	8.0000e-005	8.4200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0163	0.0163	4.0000e-005	0.0000	0.0174
Total	**1.2141**	**8.0000e-005**	**8.4200e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0163**	**0.0163**	**4.0000e-005**	**0.0000**	**0.0174**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	101.0096	2.0612	0.0499	167.3986
Unmitigated	101.0096	2.0612	0.0499	167.3986

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 4.51571	2.5831	2.1000e-004	4.0000e-005	2.6011
Day-Care Center	0.49323 / 1.26831	1.3182	0.0162	4.0000e-004	1.8412
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	62.5623 / 38.3446	97.1083	2.0448	0.0494	162.9564
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**101.0096**	**2.0612**	**0.0499**	**167.3987**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 4.51571	2.5831	2.1000e-004	4.0000e-005	2.6011
Day-Care Center	0.49323 / 1.26831	1.3182	0.0162	4.0000e-004	1.8412
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	62.5623 / 38.3446	97.1083	2.0448	0.0494	162.9564
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**101.0096**	**2.0612**	**0.0499**	**167.3987**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	69.5528	4.1105	0.0000	172.3142
Unmitigated	69.5528	4.1105	0.0000	172.3142

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.33	0.0670	3.9600e-003	0.0000	0.1660
Day-Care Center	14.95	3.0347	0.1794	0.0000	7.5184
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	327.36	66.4511	3.9272	0.0000	164.6298
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**69.5528**	**4.1105**	**0.0000**	**172.3142**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.33	0.0670	3.9600e-003	0.0000	0.1660
Day-Care Center	14.95	3.0347	0.1794	0.0000	7.5184
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
General Office Building	327.36	66.4511	3.9272	0.0000	164.6298
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**69.5528**	**4.1105**	**0.0000**	**172.3142**

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

3333 CalSF Project Case Masonic/Euclid Project

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	87.98	1000sqft	2.02	87,977.00	0
Parking Lot	3.94	1000sqft	0.09	3,936.00	0
City Park	1.42	Acre	1.42	61,855.20	0
Apartments Mid Rise	196.00	Dwelling Unit	5.16	266,251.00	561
Strip Mall	4.29	1000sqft	0.10	4,287.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	342.03	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3333 CalSF Project Case Masonic/Euclid Project - San Francisco County, Annual

Project Characteristics - CO2 intensity factor for 2022.

Land Use - Land uses for Phase 1 construction (Masonic/Euclid)

Construction Phase - No construction in this run

Grading -

Vehicle Trips - Upddated with trip rates from traffic memo

Woodstoves - No woodstoves or wood fireplaces

Consumer Products - Updatd ROG factor

Energy Use - Not modeling energy sources of operational emissions

Water And Wastewater - Not modeling water and wastewater sources of operational emissions

Solid Waste - Not modeling solid waste sources of operational emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.51E-05
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	4.88	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24E	3.36	0.00
tblEnergyUse	NT24NG	2,615.00	0.00

tblEnergyUse	NT24NG	0.70	0.00
tblEnergyUse	T24E	426.45	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	3.90	0.00
tblFireplaces	NumberGas	29.40	62.72
tblFireplaces	NumberWood	33.32	0.00
tblLandUse	LandUseSquareFeet	87,980.00	87,977.00
tblLandUse	LandUseSquareFeet	3,940.00	3,936.00
tblLandUse	LandUseSquareFeet	196,000.00	266,251.00
tblLandUse	LandUseSquareFeet	4,290.00	4,287.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	342.03
tblSolidWaste	SolidWasteGenerationRate	90.16	0.00
tblSolidWaste	SolidWasteGenerationRate	0.12	0.00
tblSolidWaste	SolidWasteGenerationRate	4.50	0.00
tblVehicleTrips	ST_TR	6.39	2.56
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	42.04	67.41
tblVehicleTrips	SU_TR	5.86	2.56
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	20.43	67.41
tblVehicleTrips	WD_TR	6.65	2.56
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	44.32	67.41
tblWater	IndoorWaterUseRate	12,770,189.02	0.00
tblWater	IndoorWaterUseRate	317,771.12	0.00

tblWater	OutdoorWaterUseRate	8,050,771.34	0.00
tblWater	OutdoorWaterUseRate	1,691,903.52	0.00
tblWater	OutdoorWaterUseRate	194,762.94	0.00
tblWoodstoves	NumberCatalytic	3.92	0.00
tblWoodstoves	NumberNoncatalytic	3.92	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.9885	0.0236	1.4607	1.2000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	10.2089	10.2089	2.4500e-003	1.4000e-004	10.3129
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	0.1852	0.7221	1.9679	6.9100e-003	0.6000	7.7800e-003	0.6077	0.1616	7.2800e-003	0.1689	0.0000	635.2422	635.2422	0.0274	0.0000	635.9278
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	**1.1737**	**0.7456**	**3.4285**	**7.0300e-003**	**0.6000**	**0.0164**	**0.6163**	**0.1616**	**0.0159**	**0.1775**	**0.0000**	**645.4511**	**645.4511**	**0.0299**	**1.4000e-004**	**646.2407**

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	0.9885	0.0236	1.4607	1.2000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	10.2089	10.2089	2.4500e-003	1.4000e-004	10.3129
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	0.1852	0.7221	1.9679	6.9100e-003	0.6000	7.7800e-003	0.6077	0.1616	7.2800e-003	0.1689	0.0000	635.2422	635.2422	0.0274	0.0000	635.9278
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	**1.1737**	**0.7456**	**3.4285**	**7.0300e-003**	**0.6000**	**0.0164**	**0.6163**	**0.1616**	**0.0159**	**0.1775**	**0.0000**	**645.4511**	**645.4511**	**0.0299**	**1.4000e-004**	**646.2407**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/2/2020	3/1/2020	5	0	
2	Site Preparation	Site Preparation	3/28/2020	3/27/2020	5	0	
3	Grading	Grading	4/11/2020	4/10/2020	5	0	
4	Building Construction	Building Construction	5/9/2020	5/8/2020	5	0	
5	Paving	Paving	3/27/2021	3/26/2021	5	0	
6	Architectural Coating	Architectural Coating	4/24/2021	4/23/2021	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.11

Residential Indoor: 539,158; Residential Outdoor: 179,719; Non-Residential Indoor: 6,431; Non-Residential Outdoor: 2,144; Striped Parking Area: 5,515 (Architectural Coating – sqft)

OffRoad Equipment

3333 CalSF Project Case Masonic/Euclid Project - San Francisco 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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	207.00	47.00	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	41.00	0.00	0.00	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.6 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.7 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1852	0.7221	1.9679	6.9100e-003	0.6000	7.7800e-003	0.6077	0.1616	7.2800e-003	0.1689	0.0000	635.2422	635.2422	0.0274	0.0000	635.9278
Unmitigated	0.1852	0.7221	1.9679	6.9100e-003	0.6000	7.7800e-003	0.6077	0.1616	7.2800e-003	0.1689	0.0000	635.2422	635.2422	0.0274	0.0000	635.9278

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	501.76	501.76	501.76	1,158,869	1,158,869
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	289.19	289.19	289.19	445,360	445,360
Total	790.95	790.95	790.95	1,604,229	1,604,229

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492
City Park	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492
Enclosed Parking with Elevator	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492
Parking Lot	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492
Strip Mall	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Strip Mall	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Strip Mall	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9885	0.0236	1.4607	1.2000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	10.2089	10.2089	2.4500e-003	1.4000e-004	10.3129
Unmitigated	0.9885	0.0236	1.4607	1.2000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	10.2089	10.2089	2.4500e-003	1.4000e-004	10.3129

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1916					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7521					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9000e-004	6.7600e-003	2.8800e-003	4.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	7.8299	7.8299	1.5000e-004	1.4000e-004	7.8765
Landscaping	0.0441	0.0168	1.4578	8.0000e-005		8.0500e-003	8.0500e-003		8.0500e-003	8.0500e-003	0.0000	2.3790	2.3790	2.3000e-003	0.0000	2.4364
Total	**0.9885**	**0.0236**	**1.4607**	**1.2000e-004**		**8.6000e-003**	**8.6000e-003**		**8.6000e-003**	**8.6000e-003**	**0.0000**	**10.2089**	**10.2089**	**2.4500e-003**	**1.4000e-004**	**10.3129**

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	0.1916					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7521					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9000e-004	6.7600e-003	2.8800e-003	4.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	7.8299	7.8299	1.5000e-004	1.4000e-004	7.8765
Landscaping	0.0441	0.0168	1.4578	8.0000e-005		8.0500e-003	8.0500e-003		8.0500e-003	8.0500e-003	0.0000	2.3790	2.3790	2.3000e-003	0.0000	2.4364
Total	**0.9885**	**0.0236**	**1.4607**	**1.2000e-004**		**8.6000e-003**	**8.6000e-003**		**8.6000e-003**	**8.6000e-003**	**0.0000**	**10.2089**	**10.2089**	**2.4500e-003**	**1.4000e-004**	**10.3129**

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

3333 CalSF Masonic/Euclid Variant

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	87.98	1000sqft	2.02	87,977.00	0
Parking Lot	3.94	1000sqft	0.09	3,936.00	0
City Park	1.42	Acre	1.42	61,855.20	0
Apartments Mid Rise	196.00	Dwelling Unit	5.16	266,251.00	561
Strip Mall	4.29	1000sqft	0.10	4,287.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	342.03	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3333 CalSF Masonic/Euclid Variant - San Francisco County, Annual

Project Characteristics - CO2 intensity factor for 2022.

Land Use - Land uses for Phase 1 construction (Masonic/Euclid)

Construction Phase - No construction in this run.

Grading -

Vehicle Trips - Updated trip rates from traffic memo

Woodstoves - No woodstoves or wood fireplaces

Consumer Products - Updated ROG Factor

Energy Use - Not modeling energy sources of operational emissions

Water And Wastewater - Not modeling water and wastewater sources of operational emissions

Solid Waste - Not modeling solid waste sources of operational emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.51E-05
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	4.88	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24E	3.36	0.00
tblEnergyUse	NT24NG	2,615.00	0.00

tblEnergyUse	NT24NG	0.70	0.00
tblEnergyUse	T24E	426.45	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	3.90	0.00
tblFireplaces	NumberGas	29.40	62.72
tblFireplaces	NumberWood	33.32	0.00
tblLandUse	LandUseSquareFeet	87,980.00	87,977.00
tblLandUse	LandUseSquareFeet	3,940.00	3,936.00
tblLandUse	LandUseSquareFeet	196,000.00	266,251.00
tblLandUse	LandUseSquareFeet	4,290.00	4,287.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	342.03
tblSolidWaste	SolidWasteGenerationRate	90.16	0.00
tblSolidWaste	SolidWasteGenerationRate	0.12	0.00
tblSolidWaste	SolidWasteGenerationRate	4.50	0.00
tblVehicleTrips	ST_TR	6.39	2.58
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	42.04	70.52
tblVehicleTrips	SU_TR	5.86	2.58
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	20.43	70.52
tblVehicleTrips	WD_TR	6.65	2.58
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	44.32	70.52
tblWater	IndoorWaterUseRate	12,770,189.02	0.00
tblWater	IndoorWaterUseRate	317,771.12	0.00

tblWater	OutdoorWaterUseRate	8,050,771.34	0.00
tblWater	OutdoorWaterUseRate	1,691,903.52	0.00
tblWater	OutdoorWaterUseRate	194,762.94	0.00
tblWoodstoves	NumberCatalytic	3.92	0.00
tblWoodstoves	NumberNoncatalytic	3.92	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.9885	0.0236	1.4607	1.2000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	10.2089	10.2089	2.4500e-003	1.4000e-004	10.3129
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	0.1890	0.7364	2.0060	7.0400e-003	0.6110	7.9200e-003	0.6190	0.1646	7.4200e-003	0.1720	0.0000	647.0609	647.0609	0.0280	0.0000	647.7595
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	**1.1775**	**0.7600**	**3.4667**	**7.1600e-003**	**0.6110**	**0.0165**	**0.6276**	**0.1646**	**0.0160**	**0.1806**	**0.0000**	**657.2698**	**657.2698**	**0.0304**	**1.4000e-004**	**658.0724**

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	0.9885	0.0236	1.4607	1.2000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	10.2089	10.2089	2.4500e-003	1.4000e-004	10.3129
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	0.1890	0.7364	2.0060	7.0400e-003	0.6110	7.9200e-003	0.6190	0.1646	7.4200e-003	0.1720	0.0000	647.0609	647.0609	0.0280	0.0000	647.7595
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	**1.1775**	**0.7600**	**3.4667**	**7.1600e-003**	**0.6110**	**0.0165**	**0.6276**	**0.1646**	**0.0160**	**0.1806**	**0.0000**	**657.2698**	**657.2698**	**0.0304**	**1.4000e-004**	**658.0724**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/2/2020	3/1/2020	5	0	
2	Site Preparation	Site Preparation	3/28/2020	3/27/2020	5	0	
3	Grading	Grading	4/11/2020	4/10/2020	5	0	
4	Building Construction	Building Construction	5/9/2020	5/8/2020	5	0	
5	Paving	Paving	3/27/2021	3/26/2021	5	0	
6	Architectural Coating	Architectural Coating	4/24/2021	4/23/2021	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.11

Residential Indoor: 539,158; Residential Outdoor: 179,719; Non-Residential Indoor: 6,431; Non-Residential Outdoor: 2,144; Striped Parking Area: 5,515 (Architectural Coating – sqft)

OffRoad Equipment

3333 CalSF Masonic/Euclid Variant - San Francisco 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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	207.00	47.00	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	41.00	0.00	0.00	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.6 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.7 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1890	0.7364	2.0060	7.0400e-003	0.6110	7.9200e-003	0.6190	0.1646	7.4200e-003	0.1720	0.0000	647.0609	647.0609	0.0280	0.0000	647.7595
Unmitigated	0.1890	0.7364	2.0060	7.0400e-003	0.6110	7.9200e-003	0.6190	0.1646	7.4200e-003	0.1720	0.0000	647.0609	647.0609	0.0280	0.0000	647.7595

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	505.68	505.68	505.68	1,167,922	1,167,922
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	302.53	302.53	302.53	465,907	465,907
Total	808.21	808.21	808.21	1,633,830	1,633,830

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492
City Park	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492
Enclosed Parking with Elevator	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492
Parking Lot	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492
Strip Mall	0.605720	0.039347	0.191789	0.088945	0.014469	0.004989	0.029396	0.009044	0.004299	0.004006	0.006568	0.000937	0.000492

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Strip Mall	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Strip Mall	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9885	0.0236	1.4607	1.2000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	10.2089	10.2089	2.4500e-003	1.4000e-004	10.3129
Unmitigated	0.9885	0.0236	1.4607	1.2000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	10.2089	10.2089	2.4500e-003	1.4000e-004	10.3129

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1916					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7521					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9000e-004	6.7600e-003	2.8800e-003	4.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	7.8299	7.8299	1.5000e-004	1.4000e-004	7.8765
Landscaping	0.0441	0.0168	1.4578	8.0000e-005		8.0500e-003	8.0500e-003		8.0500e-003	8.0500e-003	0.0000	2.3790	2.3790	2.3000e-003	0.0000	2.4364
Total	**0.9885**	**0.0236**	**1.4607**	**1.2000e-004**		**8.6000e-003**	**8.6000e-003**		**8.6000e-003**	**8.6000e-003**	**0.0000**	**10.2089**	**10.2089**	**2.4500e-003**	**1.4000e-004**	**10.3129**

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	0.1916					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7521					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9000e-004	6.7600e-003	2.8800e-003	4.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	7.8299	7.8299	1.5000e-004	1.4000e-004	7.8765
Landscaping	0.0441	0.0168	1.4578	8.0000e-005		8.0500e-003	8.0500e-003		8.0500e-003	8.0500e-003	0.0000	2.3790	2.3790	2.3000e-003	0.0000	2.4364
Total	**0.9885**	**0.0236**	**1.4607**	**1.2000e-004**		**8.6000e-003**	**8.6000e-003**		**8.6000e-003**	**8.6000e-003**	**0.0000**	**10.2089**	**10.2089**	**2.4500e-003**	**1.4000e-004**	**10.3129**

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

3333 CalSF - Phase 2 Project - Center Building AB

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	19.26	1000sqft	0.44	19,258.00	0
Parking Lot	2.51	1000sqft	0.06	2,508.00	0
City Park	1.35	Acre	1.35	58,806.00	0
Apartments Mid Rise	190.00	Dwelling Unit	5.00	322,888.00	543

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	332.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3333 CalSF - Phase 2 Project - Center Building AB - San Francisco County, Annual

Project Characteristics - CO2 intensity factor in 2023 accounting for RPS

Land Use - Phase 2 land uses from Project sponsor

Construction Phase - No construction emissions in this run.

Grading - no grading

Vehicle Trips - Updated trip rates from trip memo

Woodstoves - No woodstoves or wood fireplaces

Consumer Products - Updated ROG factor

Energy Use - Not modeling energy sources of operational emissions.

Water And Wastewater - Not modeling water and wastewater sources of operational emissions.

Solid Waste - Not modeling solid waste sources of operational emissions.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.51E-05
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	T24E	426.45	0.00
tblEnergyUse	T24E	3.92	0.00

tblEnergyUse	T24NG	6,115.43	0.00
tblFireplaces	NumberGas	28.50	60.80
tblFireplaces	NumberWood	32.30	0.00
tblLandUse	LandUseSquareFeet	19,260.00	19,258.00
tblLandUse	LandUseSquareFeet	2,510.00	2,508.00
tblLandUse	LandUseSquareFeet	190,000.00	322,888.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	332.89
tblSolidWaste	SolidWasteGenerationRate	87.40	0.00
tblSolidWaste	SolidWasteGenerationRate	0.12	0.00
tblVehicleTrips	ST_TR	6.39	2.56
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	5.86	2.56
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	6.65	2.56
tblVehicleTrips	WD_TR	1.89	0.00
tblWater	IndoorWaterUseRate	12,379,264.87	0.00
tblWater	OutdoorWaterUseRate	7,804,319.16	0.00
tblWater	OutdoorWaterUseRate	1,608,499.82	0.00
tblWoodstoves	NumberCatalytic	3.80	0.00
tblWoodstoves	NumberNoncatalytic	3.80	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1628	0.0228	1.4141	1.2000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	9.8951	9.8951	2.3600e-003	1.4000e-004	9.9957
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	0.1119	0.4264	1.2523	4.6500e-003	0.4200	4.9500e-003	0.4250	0.1131	4.6200e-003	0.1178	0.0000	428.4388	428.4388	0.0178	0.0000	428.8847
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	**1.2747**	**0.4492**	**2.6664**	**4.7700e-003**	**0.4200**	**0.0133**	**0.4333**	**0.1131**	**0.0130**	**0.1261**	**0.0000**	**438.3339**	**438.3339**	**0.0202**	**1.4000e-004**	**438.8804**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1628	0.0228	1.4141	1.2000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	9.8951	9.8951	2.3600e-003	1.4000e-004	9.9957
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	0.1119	0.4264	1.2523	4.6500e-003	0.4200	4.9500e-003	0.4250	0.1131	4.6200e-003	0.1178	0.0000	428.4388	428.4388	0.0178	0.0000	428.8847
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	**1.2747**	**0.4492**	**2.6664**	**4.7700e-003**	**0.4200**	**0.0133**	**0.4333**	**0.1131**	**0.0130**	**0.1261**	**0.0000**	**438.3339**	**438.3339**	**0.0202**	**1.4000e-004**	**438.8804**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/10/2021	9/9/2021	5	0	
2	Site Preparation	Site Preparation	10/8/2021	10/7/2021	5	0	
3	Grading	Grading	10/22/2021	10/21/2021	5	0	
4	Building Construction	Building Construction	11/19/2021	11/18/2021	5	0	
5	Paving	Paving	10/7/2022	10/6/2022	5	0	
6	Architectural Coating	Architectural Coating	11/4/2022	11/3/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.5

Residential Indoor: 653,848; Residential Outdoor: 217,949; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,306 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

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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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	171.00	34.00	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	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.2 Demolition - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 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					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.3 Site Preparation - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 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					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.4 Grading - 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

3.5 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2022

Unmitigated Construction On-Site

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

3.6 Paving - 2022

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.6 Paving - 2022

Mitigated Construction Off-Site

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

3.7 Architectural Coating - 2022

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1119	0.4264	1.2523	4.6500e-003	0.4200	4.9500e-003	0.4250	0.1131	4.6200e-003	0.1178	0.0000	428.4388	428.4388	0.0178	0.0000	428.8847
Unmitigated	0.1119	0.4264	1.2523	4.6500e-003	0.4200	4.9500e-003	0.4250	0.1131	4.6200e-003	0.1178	0.0000	428.4388	428.4388	0.0178	0.0000	428.8847

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	486.40	486.40	486.40	1,123,393	1,123,393
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	486.40	486.40	486.40	1,123,393	1,123,393

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	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
Apartments Mid Rise	0.605107	0.038687	0.192108	0.089453	0.014064	0.005036	0.030434	0.009181	0.004309	0.003768	0.006404	0.000941	0.000505
City Park	0.605107	0.038687	0.192108	0.089453	0.014064	0.005036	0.030434	0.009181	0.004309	0.003768	0.006404	0.000941	0.000505
Enclosed Parking with Elevator	0.605107	0.038687	0.192108	0.089453	0.014064	0.005036	0.030434	0.009181	0.004309	0.003768	0.006404	0.000941	0.000505
Parking Lot	0.605107	0.038687	0.192108	0.089453	0.014064	0.005036	0.030434	0.009181	0.004309	0.003768	0.006404	0.000941	0.000505

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

	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	1.1628	0.0228	1.4141	1.2000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	9.8951	9.8951	2.3600e-003	1.4000e-004	9.9957
Unmitigated	1.1628	0.0228	1.4141	1.2000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	9.8951	9.8951	2.3600e-003	1.4000e-004	9.9957

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.7000e-004	6.5500e-003	2.7900e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5902	7.5902	1.5000e-004	1.4000e-004	7.6353
Landscaping	0.0425	0.0163	1.4113	7.0000e-005		7.8100e-003	7.8100e-003		7.8100e-003	7.8100e-003	0.0000	2.3049	2.3049	2.2200e-003	0.0000	2.3603
Total	**1.1628**	**0.0228**	**1.4141**	**1.1000e-004**		**8.3400e-003**	**8.3400e-003**		**8.3400e-003**	**8.3400e-003**	**0.0000**	**9.8951**	**9.8951**	**2.3700e-003**	**1.4000e-004**	**9.9956**

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	0.2278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.7000e-004	6.5500e-003	2.7900e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5902	7.5902	1.5000e-004	1.4000e-004	7.6353
Landscaping	0.0425	0.0163	1.4113	7.0000e-005		7.8100e-003	7.8100e-003		7.8100e-003	7.8100e-003	0.0000	2.3049	2.3049	2.2200e-003	0.0000	2.3603
Total	**1.1628**	**0.0228**	**1.4141**	**1.1000e-004**		**8.3400e-003**	**8.3400e-003**		**8.3400e-003**	**8.3400e-003**	**0.0000**	**9.8951**	**9.8951**	**2.3700e-003**	**1.4000e-004**	**9.9956**

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

3333 CalSF - Phase 2 Variant - Center Building AB

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	19.26	1000sqft	0.44	19,258.00	0
Parking Lot	2.51	1000sqft	0.06	2,508.00	0
City Park	1.35	Acre	1.35	58,806.00	0
Apartments Mid Rise	190.00	Dwelling Unit	5.00	322,888.00	543

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	332.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3333 CalSF - Phase 2 Variant - Center Building AB - San Francisco County, Annual

Project Characteristics - CO2 intensity factor in 2023 accounting for RPS

Land Use - Phase 2 land uses from Project sponsor

Construction Phase - No construction in this analysis

Grading -

Vehicle Trips - Updated trip rates from traffic memo

Woodstoves - No woodstoves or wood bruining fireplaces

Consumer Products - Updated ROG EF

Energy Use - Not modeling energy sources of operational emissions

Water And Wastewater - Not modeling water and wastewater sources of operational emissions

Solid Waste - Not modeling solid waste sources of operational emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.51E-05
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	T24E	426.45	0.00
tblEnergyUse	T24E	3.92	0.00

tblEnergyUse	T24NG	6,115.43	0.00
tblFireplaces	NumberGas	28.50	60.80
tblFireplaces	NumberWood	32.30	0.00
tblLandUse	LandUseSquareFeet	19,260.00	19,258.00
tblLandUse	LandUseSquareFeet	2,510.00	2,508.00
tblLandUse	LandUseSquareFeet	190,000.00	322,888.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	332.89
tblSolidWaste	SolidWasteGenerationRate	87.40	0.00
tblSolidWaste	SolidWasteGenerationRate	0.12	0.00
tblVehicleTrips	ST_TR	6.39	2.58
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	5.86	2.58
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	6.65	2.58
tblVehicleTrips	WD_TR	1.89	0.00
tblWater	IndoorWaterUseRate	12,379,264.87	0.00
tblWater	OutdoorWaterUseRate	7,804,319.16	0.00
tblWater	OutdoorWaterUseRate	1,608,499.82	0.00
tblWoodstoves	NumberCatalytic	3.80	0.00
tblWoodstoves	NumberNoncatalytic	3.80	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1628	0.0228	1.4141	1.2000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	9.8951	9.8951	2.3600e-003	1.4000e-004	9.9957
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	0.1127	0.4297	1.2621	4.6900e-003	0.4233	4.9800e-003	0.4283	0.1140	4.6600e-003	0.1187	0.0000	431.7859	431.7859	0.0180	0.0000	432.2354
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	**1.2755**	**0.4525**	**2.6762**	**4.8100e-003**	**0.4233**	**0.0133**	**0.4366**	**0.1140**	**0.0130**	**0.1270**	**0.0000**	**441.6810**	**441.6810**	**0.0203**	**1.4000e-004**	**442.2311**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1628	0.0228	1.4141	1.2000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	9.8951	9.8951	2.3600e-003	1.4000e-004	9.9957
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	0.1127	0.4297	1.2621	4.6900e-003	0.4233	4.9800e-003	0.4283	0.1140	4.6600e-003	0.1187	0.0000	431.7859	431.7859	0.0180	0.0000	432.2354
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	**1.2755**	**0.4525**	**2.6762**	**4.8100e-003**	**0.4233**	**0.0133**	**0.4366**	**0.1140**	**0.0130**	**0.1270**	**0.0000**	**441.6810**	**441.6810**	**0.0203**	**1.4000e-004**	**442.2311**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/25/2018	5/24/2018	5	0	
2	Site Preparation	Site Preparation	6/22/2018	6/21/2018	5	0	
3	Grading	Grading	7/6/2018	7/5/2018	5	0	
4	Building Construction	Building Construction	8/3/2018	8/2/2018	5	0	
5	Paving	Paving	6/21/2019	6/20/2019	5	0	
6	Architectural Coating	Architectural Coating	7/19/2019	7/18/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.5

Residential Indoor: 653,848; Residential Outdoor: 217,949; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,306 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

3333 CalSF - Phase 2 Variant - Center Building AB - San Francisco 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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	171.00	34.00	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	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

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

3.2 Demolition - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.2 Demolition - 2018

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

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

3.4 Grading - 2018

Unmitigated Construction On-Site

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

3.4 Grading - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.4 Grading - 2018

Mitigated Construction Off-Site

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

3.5 Building Construction - 2018

Unmitigated Construction On-Site

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

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.5 Building Construction - 2018

Mitigated Construction Off-Site

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

3.6 Paving - 2019

Unmitigated Construction On-Site

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

3.6 Paving - 2019

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.6 Paving - 2019

Mitigated Construction Off-Site

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

3.7 Architectural Coating - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1127	0.4297	1.2621	4.6900e-003	0.4233	4.9800e-003	0.4283	0.1140	4.6600e-003	0.1187	0.0000	431.7859	431.7859	0.0180	0.0000	432.2354
Unmitigated	0.1127	0.4297	1.2621	4.6900e-003	0.4233	4.9800e-003	0.4283	0.1140	4.6600e-003	0.1187	0.0000	431.7859	431.7859	0.0180	0.0000	432.2354

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	490.20	490.20	490.20	1,132,169	1,132,169
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	490.20	490.20	490.20	1,132,169	1,132,169

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	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
Apartments Mid Rise	0.605107	0.038687	0.192108	0.089453	0.014064	0.005036	0.030434	0.009181	0.004309	0.003768	0.006404	0.000941	0.000505
City Park	0.605107	0.038687	0.192108	0.089453	0.014064	0.005036	0.030434	0.009181	0.004309	0.003768	0.006404	0.000941	0.000505
Enclosed Parking with Elevator	0.605107	0.038687	0.192108	0.089453	0.014064	0.005036	0.030434	0.009181	0.004309	0.003768	0.006404	0.000941	0.000505
Parking Lot	0.605107	0.038687	0.192108	0.089453	0.014064	0.005036	0.030434	0.009181	0.004309	0.003768	0.006404	0.000941	0.000505

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

	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	1.1628	0.0228	1.4141	1.2000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	9.8951	9.8951	2.3600e-003	1.4000e-004	9.9957
Unmitigated	1.1628	0.0228	1.4141	1.2000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003	0.0000	9.8951	9.8951	2.3600e-003	1.4000e-004	9.9957

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.7000e-004	6.5500e-003	2.7900e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5902	7.5902	1.5000e-004	1.4000e-004	7.6353
Landscaping	0.0425	0.0163	1.4113	7.0000e-005		7.8100e-003	7.8100e-003		7.8100e-003	7.8100e-003	0.0000	2.3049	2.3049	2.2200e-003	0.0000	2.3603
Total	**1.1628**	**0.0228**	**1.4141**	**1.1000e-004**		**8.3400e-003**	**8.3400e-003**		**8.3400e-003**	**8.3400e-003**	**0.0000**	**9.8951**	**9.8951**	**2.3700e-003**	**1.4000e-004**	**9.9956**

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	0.2278					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.7000e-004	6.5500e-003	2.7900e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.5902	7.5902	1.5000e-004	1.4000e-004	7.6353
Landscaping	0.0425	0.0163	1.4113	7.0000e-005		7.8100e-003	7.8100e-003		7.8100e-003	7.8100e-003	0.0000	2.3049	2.3049	2.2200e-003	0.0000	2.3603
Total	**1.1628**	**0.0228**	**1.4141**	**1.1000e-004**		**8.3400e-003**	**8.3400e-003**		**8.3400e-003**	**8.3400e-003**	**0.0000**	**9.8951**	**9.8951**	**2.3700e-003**	**1.4000e-004**	**9.9956**

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	50.00	1000sqft	1.15	49,999.00	0
Day-Care Center	14.69	1000sqft	0.34	14,690.00	0
Enclosed Parking with Elevator	301.06	1000sqft	6.91	301,060.00	0
Parking Lot	3.82	1000sqft	0.09	3,816.00	0
City Park	2.19	Acre	2.19	95,396.40	0
Apartments Mid Rise	128.00	Dwelling Unit	3.37	138,370.00	366
Strip Mall	49.83	1000sqft	1.14	49,830.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	314.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity for 2025 accounting for RPS

Land Use - Phase 3 land uses from project sponsor

Construction Phase - No construction in this analysis

Grading -

Vehicle Trips - Updated trip rates from traffic memo

Woodstoves - No woodstoves or wood burning fireplaces

Consumer Products - Updated ROG factor

Energy Use - Not modeling energy sources of operational emissions.

Water And Wastewater - Not modeling water and wastewater sources of operational emissions

Solid Waste - Not modeling solid waste sources of operational emissions.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.51E-05
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	2.51	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	3.58	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	4.88	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	1.27	0.00

tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24E	4.80	0.00
tblEnergyUse	NT24E	3.36	0.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	NT24NG	1.62	0.00
tblEnergyUse	NT24NG	1.01	0.00
tblEnergyUse	NT24NG	0.70	0.00
tblEnergyUse	T24E	426.45	0.00
tblEnergyUse	T24E	0.66	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	4.10	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	14.85	0.00
tblEnergyUse	T24NG	18.32	0.00
tblEnergyUse	T24NG	3.90	0.00
tblFireplaces	NumberGas	19.20	40.96
tblFireplaces	NumberWood	21.76	0.00
tblLandUse	LandUseSquareFeet	50,000.00	49,999.00
tblLandUse	LandUseSquareFeet	3,820.00	3,816.00
tblLandUse	LandUseSquareFeet	128,000.00	138,370.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	314.6
tblSolidWaste	SolidWasteGenerationRate	58.88	0.00
tblSolidWaste	SolidWasteGenerationRate	0.19	0.00
tblSolidWaste	SolidWasteGenerationRate	19.10	0.00
tblSolidWaste	SolidWasteGenerationRate	46.50	0.00
tblSolidWaste	SolidWasteGenerationRate	52.32	0.00

tblVehicleTrips	ST_TR	6.39	2.56
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	6.21	19.16
tblVehicleTrips	ST_TR	2.46	5.18
tblVehicleTrips	ST_TR	42.04	67.41
tblVehicleTrips	SU_TR	5.86	2.56
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.83	19.16
tblVehicleTrips	SU_TR	1.05	5.18
tblVehicleTrips	SU_TR	20.43	67.41
tblVehicleTrips	WD_TR	6.65	2.56
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	74.06	19.16
tblVehicleTrips	WD_TR	11.03	5.18
tblVehicleTrips	WD_TR	44.32	67.41
tblWater	IndoorWaterUseRate	8,339,715.28	0.00
tblWater	IndoorWaterUseRate	630,047.75	0.00
tblWater	IndoorWaterUseRate	8,886,687.40	0.00
tblWater	IndoorWaterUseRate	3,691,033.75	0.00
tblWater	OutdoorWaterUseRate	5,257,646.59	0.00
tblWater	OutdoorWaterUseRate	2,609,344.16	0.00
tblWater	OutdoorWaterUseRate	1,620,122.78	0.00
tblWater	OutdoorWaterUseRate	5,446,679.37	0.00
tblWater	OutdoorWaterUseRate	2,262,246.49	0.00
tblWoodstoves	NumberCatalytic	2.56	0.00
tblWoodstoves	NumberNoncatalytic	2.56	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.9104	0.0154	0.9553	8.0000e-005		5.6400e-003	5.6400e-003		5.6400e-003	5.6400e-003	0.0000	6.6734	6.6734	1.6000e-003	9.0000e-005	6.7415
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	0.7587	2.8768	7.5116	0.0271	2.5707	0.0291	2.5998	0.6922	0.0272	0.7193	0.0000	2,503.7046	2,503.7046	0.1073	0.0000	2,506.3859
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	**1.6690**	**2.8922**	**8.4668**	**0.0272**	**2.5707**	**0.0348**	**2.6055**	**0.6922**	**0.0328**	**0.7250**	**0.0000**	**2,510.3780**	**2,510.3780**	**0.1089**	**9.0000e-005**	**2,513.1273**

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	0.9104	0.0154	0.9553	8.0000e-005		5.6400e-003	5.6400e-003		5.6400e-003	5.6400e-003	0.0000	6.6734	6.6734	1.6000e-003	9.0000e-005	6.7415
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	0.7587	2.8768	7.5116	0.0271	2.5707	0.0291	2.5998	0.6922	0.0272	0.7193	0.0000	2,503.7046	2,503.7046	0.1073	0.0000	2,506.3859
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	**1.6690**	**2.8922**	**8.4668**	**0.0272**	**2.5707**	**0.0348**	**2.6055**	**0.6922**	**0.0328**	**0.7250**	**0.0000**	**2,510.3780**	**2,510.3780**	**0.1089**	**9.0000e-005**	**2,513.1273**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/12/2022	4/11/2022	5	0	
2	Site Preparation	Site Preparation	5/10/2022	5/9/2022	5	0	
3	Grading	Grading	5/24/2022	5/23/2022	5	0	
4	Building Construction	Building Construction	7/5/2022	7/4/2022	5	0	
5	Paving	Paving	8/29/2023	8/28/2023	5	0	
6	Architectural Coating	Architectural Coating	9/26/2023	9/25/2023	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 7

Residential Indoor: 280,199; Residential Outdoor: 93,400; Non-Residential Indoor: 171,779; Non-Residential Outdoor: 57,260; Striped Parking Area: 18,293 (Architectural Coating – sqft)

OffRoad Equipment

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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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	298.00	98.00	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	60.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

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

3.2 Demolition - 2022

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.2 Demolition - 2022

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

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

3.4 Grading - 2022

Unmitigated Construction On-Site

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

3.4 Grading - 2022

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.4 Grading - 2022

Mitigated Construction Off-Site

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

3.5 Building Construction - 2022

Unmitigated Construction On-Site

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

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.5 Building Construction - 2022

Mitigated Construction Off-Site

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

3.6 Paving - 2023

Unmitigated Construction On-Site

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

3.6 Paving - 2023

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.6 Paving - 2023

Mitigated Construction Off-Site

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

3.7 Architectural Coating - 2023

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7587	2.8768	7.5116	0.0271	2.5707	0.0291	2.5998	0.6922	0.0272	0.7193	0.0000	2,503.7046	2,503.7046	0.1073	0.0000	2,506.3859
Unmitigated	0.7587	2.8768	7.5116	0.0271	2.5707	0.0291	2.5998	0.6922	0.0272	0.7193	0.0000	2,503.7046	2,503.7046	0.1073	0.0000	2,506.3859

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	327.68	327.68	327.68	756,812	756,812
City Park	0.00	0.00	0.00		
Day-Care Center	281.46	281.46	281.46	331,456	331,456
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	259.00	259.00	259.00	618,946	618,946
Parking Lot	0.00	0.00	0.00		
Strip Mall	3,359.04	3,359.04	3359.04	5,173,033	5,173,033
Total	4,227.18	4,227.18	4,227.18	6,880,247	6,880,247

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
City Park	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
Day-Care Center	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
Enclosed Parking with Elevator	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
General Office Building	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
Parking Lot	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
Strip Mall	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

3333 CalSF - Plaza A/B Walnut Project - San Francisco 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					
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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Day-Care Center	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	0.0000
Enclosed Parking with Elevator	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	0.0000
General Office Building	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	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	0.0000
Strip Mall	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Day-Care Center	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	0.0000
Enclosed Parking with Elevator	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	0.0000
General Office Building	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	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	0.0000
Strip Mall	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9104	0.0154	0.9553	8.0000e-005		5.6400e-003	5.6400e-003		5.6400e-003	5.6400e-003	0.0000	6.6734	6.6734	1.6000e-003	9.0000e-005	6.7415
Unmitigated	0.9104	0.0154	0.9553	8.0000e-005		5.6400e-003	5.6400e-003		5.6400e-003	5.6400e-003	0.0000	6.6734	6.6734	1.6000e-003	9.0000e-005	6.7415

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1635					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7175					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.2000e-004	4.4200e-003	1.8800e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1134	5.1134	1.0000e-004	9.0000e-005	5.1438
Landscaping	0.0289	0.0110	0.9534	5.0000e-005		5.2800e-003	5.2800e-003		5.2800e-003	5.2800e-003	0.0000	1.5600	1.5600	1.5100e-003	0.0000	1.5977
Total	**0.9104**	**0.0154**	**0.9553**	**8.0000e-005**		**5.6400e-003**	**5.6400e-003**		**5.6400e-003**	**5.6400e-003**	**0.0000**	**6.6734**	**6.6734**	**1.6100e-003**	**9.0000e-005**	**6.7415**

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	0.1635					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7175					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.2000e-004	4.4200e-003	1.8800e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1134	5.1134	1.0000e-004	9.0000e-005	5.1438
Landscaping	0.0289	0.0110	0.9534	5.0000e-005		5.2800e-003	5.2800e-003		5.2800e-003	5.2800e-003	0.0000	1.5600	1.5600	1.5100e-003	0.0000	1.5977
Total	**0.9104**	**0.0154**	**0.9553**	**8.0000e-005**		**5.6400e-003**	**5.6400e-003**		**5.6400e-003**	**5.6400e-003**	**0.0000**	**6.6734**	**6.6734**	**1.6100e-003**	**9.0000e-005**	**6.7415**

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

3333 CalSF - Plaza A/B Walnut Variant

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	14.65	1000sqft	0.34	14,650.00	0
Enclosed Parking with Elevator	307.42	1000sqft	7.06	307,420.00	0
Parking Lot	6.18	1000sqft	0.14	6,180.00	0
City Park	2.19	Acre	2.19	95,396.40	0
Apartments Mid Rise	314.00	Dwelling Unit	8.26	292,290.00	898
Strip Mall	44.31	1000sqft	1.02	44,306.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	314.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3333 CalSF - Plaza A/B Walnut Variant - San Francisco County, Annual

Project Characteristics - estimated intensity factor (CO2)

Land Use - Phase 3 land uses from Project Sponsor

Construction Phase - Not modeling construction emissions

Vehicle Trips - Given trips

Woodstoves - no woodstoves, only gas fireplaces

Consumer Products - ROG EF changed to 1.51E-5

Energy Use - Not modeling energy sources of operational emissions

Water And Wastewater - Not modeling water and wastewater sources of operational emissions

Solid Waste - Not modeling solid waste sources of operational emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.51E-05
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	2.51	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	4.88	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	1.27	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24E	3.36	0.00

tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	NT24NG	1.62	0.00
tblEnergyUse	NT24NG	0.70	0.00
tblEnergyUse	T24E	426.45	0.00
tblEnergyUse	T24E	0.66	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24E	2.24	0.00
tblEnergyUse	T24NG	6,115.43	0.00
tblEnergyUse	T24NG	14.85	0.00
tblEnergyUse	T24NG	3.90	0.00
tblFireplaces	NumberGas	47.10	100.48
tblFireplaces	NumberWood	53.38	0.00
tblGrading	AcresOfGrading	0.00	75.00
tblLandUse	LandUseSquareFeet	314,000.00	292,290.00
tblLandUse	LandUseSquareFeet	44,310.00	44,306.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	314.6
tblSolidWaste	SolidWasteGenerationRate	144.44	0.00
tblSolidWaste	SolidWasteGenerationRate	0.19	0.00
tblSolidWaste	SolidWasteGenerationRate	19.05	0.00
tblSolidWaste	SolidWasteGenerationRate	46.53	0.00
tblVehicleTrips	ST_TR	6.39	2.58
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	6.21	19.30
tblVehicleTrips	ST_TR	42.04	70.52
tblVehicleTrips	SU_TR	5.86	2.58
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.83	19.30

tblVehicleTrips	SU_TR	20.43	70.52
tblVehicleTrips	WD_TR	6.65	2.58
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	74.06	19.30
tblVehicleTrips	WD_TR	44.32	70.52
tblWater	IndoorWaterUseRate	20,458,364.05	0.00
tblWater	IndoorWaterUseRate	628,332.16	0.00
tblWater	IndoorWaterUseRate	3,282,153.43	0.00
tblWater	OutdoorWaterUseRate	12,897,664.29	0.00
tblWater	OutdoorWaterUseRate	2,609,344.16	0.00
tblWater	OutdoorWaterUseRate	1,615,711.28	0.00
tblWater	OutdoorWaterUseRate	2,011,642.42	0.00
tblWoodstoves	NumberCatalytic	6.28	0.00
tblWoodstoves	NumberNoncatalytic	6.28	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3037	0.0377	2.3373	1.9000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	16.3590	16.3590	3.9000e-003	2.3000e-004	16.5251
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	0.7628	2.8997	7.6092	0.0276	2.6215	0.0296	2.6511	0.7058	0.0276	0.7335	0.0000	2,550.0140	2,550.0140	0.1089	0.0000	2,552.7365
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	**2.0664**	**2.9374**	**9.9465**	**0.0278**	**2.6215**	**0.0434**	**2.6649**	**0.7058**	**0.0415**	**0.7473**	**0.0000**	**2,566.3729**	**2,566.3729**	**0.1128**	**2.3000e-004**	**2,569.2616**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3037	0.0377	2.3373	1.9000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	16.3590	16.3590	3.9000e-003	2.3000e-004	16.5251
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	0.7628	2.8997	7.6092	0.0276	2.6215	0.0296	2.6511	0.7058	0.0276	0.7335	0.0000	2,550.0140	2,550.0140	0.1089	0.0000	2,552.7365
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	**2.0664**	**2.9374**	**9.9465**	**0.0278**	**2.6215**	**0.0434**	**2.6649**	**0.7058**	**0.0415**	**0.7473**	**0.0000**	**2,566.3729**	**2,566.3729**	**0.1128**	**2.3000e-004**	**2,569.2616**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/19/2025	3/19/2025	5	0	
2	Site Preparation	Site Preparation	12/17/2025	8/13/2025	5	0	
3	Grading	Grading	12/31/2025	12/3/2024	5	0	
4	Building Construction	Building Construction	2/11/2026	2/10/2026	5	0	
5	Paving	Paving	4/7/2027	10/27/2026	5	0	
6	Architectural Coating	Architectural Coating	5/5/2027	7/9/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 7.2

Residential Indoor: 591,887; Residential Outdoor: 197,296; Non-Residential Indoor: 88,434; Non-Residential Outdoor: 29,478; Striped Parking Area: 18,816 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

3333 CalSF - Plaza A/B Walnut Variant - San Francisco 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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	418.00	110.00	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	84.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2025

Unmitigated Construction On-Site

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

3.2 Demolition - 2025

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.2 Demolition - 2025

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2025

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2025

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.3 Site Preparation - 2025

Mitigated Construction Off-Site

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

3.5 Building Construction - 2026

Unmitigated Construction On-Site

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

3.5 Building Construction - 2026

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.5 Building Construction - 2026

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7628	2.8997	7.6092	0.0276	2.6215	0.0296	2.6511	0.7058	0.0276	0.7335	0.0000	2,550.0140	2,550.0140	0.1089	0.0000	2,552.7365
Unmitigated	0.7628	2.8997	7.6092	0.0276	2.6215	0.0296	2.6511	0.7058	0.0276	0.7335	0.0000	2,550.0140	2,550.0140	0.1089	0.0000	2,552.7365

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	810.12	810.12	810.12	1,871,059	1,871,059
City Park	0.00	0.00	0.00		
Day-Care Center	282.75	282.75	282.75	332,969	332,969
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	3,124.74	3,124.74	3124.74	4,812,205	4,812,205
Total	4,217.61	4,217.61	4,217.61	7,016,233	7,016,233

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
City Park	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
Day-Care Center	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
Enclosed Parking with Elevator	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
Parking Lot	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534
Strip Mall	0.604343	0.037677	0.192702	0.090337	0.013384	0.005111	0.031913	0.009324	0.004273	0.003317	0.006138	0.000948	0.000534

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

3333 CalSF - Plaza A/B Walnut Variant - San Francisco 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					
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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Day-Care Center	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Strip Mall	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Day-Care Center	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Strip Mall	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

	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	1.3037	0.0377	2.3373	1.9000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	16.3590	16.3590	3.9000e-003	2.3000e-004	16.5251
Unmitigated	1.3037	0.0377	2.3373	1.9000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	16.3590	16.3590	3.9000e-003	2.3000e-004	16.5251

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2430					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.2700e-003	0.0108	4.6100e-003	7.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	12.5439	12.5439	2.4000e-004	2.3000e-004	12.6184
Landscaping	0.0703	0.0269	2.3327	1.2000e-004		0.0129	0.0129		0.0129	0.0129	0.0000	3.8151	3.8151	3.6600e-003	0.0000	3.9068
Total	**1.3037**	**0.0377**	**2.3373**	**1.9000e-004**		**0.0138**	**0.0138**		**0.0138**	**0.0138**	**0.0000**	**16.3590**	**16.3590**	**3.9000e-003**	**2.3000e-004**	**16.5251**

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	0.2430					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.2700e-003	0.0108	4.6100e-003	7.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	12.5439	12.5439	2.4000e-004	2.3000e-004	12.6184
Landscaping	0.0703	0.0269	2.3327	1.2000e-004		0.0129	0.0129		0.0129	0.0129	0.0000	3.8151	3.8151	3.6600e-003	0.0000	3.9068
Total	**1.3037**	**0.0377**	**2.3373**	**1.9000e-004**		**0.0138**	**0.0138**		**0.0138**	**0.0138**	**0.0000**	**16.3590**	**16.3590**	**3.9000e-003**	**2.3000e-004**	**16.5251**

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

3333 CalSF - Mayfair Townhouse Project

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	20.48	1000sqft	0.47	20,478.00	0
Parking Lot	0.58	1000sqft	0.01	576.00	0
City Park	0.46	Acre	0.46	20,037.60	0
Apartments Mid Rise	44.00	Dwelling Unit	1.16	97,182.00	126

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2027
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	296.32	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3333 CalSF - Mayfair Townhouse Project - San Francisco County, Annual

Project Characteristics - Projected intensity factor in 2027

Land Use - Calculated square footage

Construction Phase - Zeroed out construction

Vehicle Trips - updated vehicle trips

Woodstoves - set woodstoves to 0, made all fireplaces gas

Consumer Products - ROG EF changed to 1.51E-5

Energy Use - Not modeling energy sources of operational emissions

Water And Wastewater - Not modeling water and wastewater sources of operational emissions

Solid Waste - Not modeling solid waste sources of operational emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	6.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	3.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.51E-05
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	T24E	426.45	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24NG	6,115.43	0.00

tblFireplaces	NumberGas	6.60	14.08
tblFireplaces	NumberWood	7.48	0.00
tblGrading	AcresOfGrading	0.00	3.00
tblGrading	AcresOfGrading	0.00	4.50
tblLandUse	LandUseSquareFeet	20,480.00	20,478.00
tblLandUse	LandUseSquareFeet	580.00	576.00
tblLandUse	LandUseSquareFeet	44,000.00	97,182.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	296.32
tblSolidWaste	SolidWasteGenerationRate	20.24	0.00
tblSolidWaste	SolidWasteGenerationRate	0.04	0.00
tblVehicleTrips	ST_TR	6.39	2.56
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	5.86	2.56
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	6.65	2.56
tblVehicleTrips	WD_TR	1.89	0.00
tblWater	IndoorWaterUseRate	2,866,777.13	0.00
tblWater	OutdoorWaterUseRate	1,807,316.02	0.00
tblWater	OutdoorWaterUseRate	548,081.42	0.00
tblWoodstoves	NumberCatalytic	0.88	0.00
tblWoodstoves	NumberNoncatalytic	0.88	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.3482	5.2800e-003	0.3272	3.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	2.2918	2.2918	5.5000e-004	3.0000e-005	2.3150
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	0.0211	0.0864	0.2340	9.5000e-004	0.0972	9.6000e-004	0.0981	0.0262	8.9000e-004	0.0271	0.0000	88.1513	88.1513	3.5800e-003	0.0000	88.2407
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	**0.3693**	**0.0917**	**0.5613**	**9.8000e-004**	**0.0972**	**2.8900e-003**	**0.1001**	**0.0262**	**2.8200e-003**	**0.0290**	**0.0000**	**90.4431**	**90.4431**	**4.1300e-003**	**3.0000e-005**	**90.5558**

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	0.3482	5.2800e-003	0.3272	3.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	2.2918	2.2918	5.5000e-004	3.0000e-005	2.3150
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	0.0211	0.0864	0.2340	9.5000e-004	0.0972	9.6000e-004	0.0981	0.0262	8.9000e-004	0.0271	0.0000	88.1513	88.1513	3.5800e-003	0.0000	88.2407
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	**0.3693**	**0.0917**	**0.5613**	**9.8000e-004**	**0.0972**	**2.8900e-003**	**0.1001**	**0.0262**	**2.8200e-003**	**0.0290**	**0.0000**	**90.4431**	**90.4431**	**4.1300e-003**	**3.0000e-005**	**90.5558**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/13/2018	10/18/2017	5	0	
2	Site Preparation	Site Preparation	2/10/2018	8/16/2017	5	0	
3	Grading	Grading	2/15/2018	9/13/2017	5	0	
4	Building Construction	Building Construction	2/23/2018	2/2/2011	5	0	
5	Paving	Paving	12/28/2018	3/7/2018	5	0	
6	Architectural Coating	Architectural Coating	1/11/2019	6/14/2017	5	0	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0.48

Residential Indoor: 196,794; Residential Outdoor: 65,598; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,263 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

3333 CalSF - Mayfair Townhouse Project - San Francisco 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	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	49.00	11.00	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	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.6 Paving - 2018

Unmitigated Construction On-Site

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

3.6 Paving - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.6 Paving - 2018

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0211	0.0864	0.2340	9.5000e-004	0.0972	9.6000e-004	0.0981	0.0262	8.9000e-004	0.0271	0.0000	88.1513	88.1513	3.5800e-003	0.0000	88.2407
Unmitigated	0.0211	0.0864	0.2340	9.5000e-004	0.0972	9.6000e-004	0.0981	0.0262	8.9000e-004	0.0271	0.0000	88.1513	88.1513	3.5800e-003	0.0000	88.2407

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	112.64	112.64	112.64	260,154	260,154
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	112.64	112.64	112.64	260,154	260,154

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	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
Apartments Mid Rise	0.603481	0.036963	0.193002	0.091056	0.012889	0.005184	0.033230	0.009471	0.004272	0.002983	0.005952	0.000956	0.000561
City Park	0.603481	0.036963	0.193002	0.091056	0.012889	0.005184	0.033230	0.009471	0.004272	0.002983	0.005952	0.000956	0.000561
Enclosed Parking with Elevator	0.603481	0.036963	0.193002	0.091056	0.012889	0.005184	0.033230	0.009471	0.004272	0.002983	0.005952	0.000956	0.000561
Parking Lot	0.603481	0.036963	0.193002	0.091056	0.012889	0.005184	0.033230	0.009471	0.004272	0.002983	0.005952	0.000956	0.000561

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3482	5.2800e-003	0.3272	3.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	2.2918	2.2918	5.5000e-004	3.0000e-005	2.3150
Unmitigated	0.3482	5.2800e-003	0.3272	3.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	2.2918	2.2918	5.5000e-004	3.0000e-005	2.3150

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0689					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.8000e-004	1.5200e-003	6.5000e-004	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7577	1.7577	3.0000e-005	3.0000e-005	1.7682
Landscaping	9.8200e-003	3.7600e-003	0.3266	2.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	0.5341	0.5341	5.1000e-004	0.0000	0.5469
Total	**0.3482**	**5.2800e-003**	**0.3272**	**3.0000e-005**		**1.9300e-003**	**1.9300e-003**		**1.9300e-003**	**1.9300e-003**	**0.0000**	**2.2918**	**2.2918**	**5.4000e-004**	**3.0000e-005**	**2.3150**

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	0.0689					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.8000e-004	1.5200e-003	6.5000e-004	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7577	1.7577	3.0000e-005	3.0000e-005	1.7682
Landscaping	9.8200e-003	3.7600e-003	0.3266	2.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	0.5341	0.5341	5.1000e-004	0.0000	0.5469
Total	**0.3482**	**5.2800e-003**	**0.3272**	**3.0000e-005**		**1.9300e-003**	**1.9300e-003**		**1.9300e-003**	**1.9300e-003**	**0.0000**	**2.2918**	**2.2918**	**5.4000e-004**	**3.0000e-005**	**2.3150**

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

3333 CalSF - Mayfair Townhouse Variant

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	20.48	1000sqft	0.47	20,478.00	0
Parking Lot	0.58	1000sqft	0.01	576.00	0
City Park	0.46	Acre	0.46	20,037.60	0
Apartments Mid Rise	44.00	Dwelling Unit	1.16	97,182.00	126

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2027
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	296.32	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

3333 CalSF - Mayfair Townhouse Variant - San Francisco County, Annual

Project Characteristics - Projected intensity factor in 2027

Land Use - Calculated square footage

Construction Phase - Zeroed out construction

Vehicle Trips - updated vehicle trips for variant case

Woodstoves - set woodstoves to 0, made all fireplaces gas

Consumer Products - ROG EF changed to 1.51E-5

Energy Use - Not modeling energy sources of operational emissions

Water And Wastewater - Not modeling water and wastewater sources of operational emissions

Solid Waste - Not modeling solid waste sources of operational emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	6.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	3.00	0.00
tblConstructionPhase	PhaseEndDate	1/24/2019	1/10/2019
tblConstructionPhase	PhaseEndDate	12/27/2018	2/22/2018
tblConstructionPhase	PhaseEndDate	2/9/2018	1/12/2018
tblConstructionPhase	PhaseEndDate	2/22/2018	2/14/2018
tblConstructionPhase	PhaseEndDate	1/10/2019	12/27/2018
tblConstructionPhase	PhaseEndDate	2/14/2018	2/9/2018
tblConsumerProducts	ROG_EF	2.14E-05	1.51E-05
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	LightingElect	0.35	0.00

tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	0.19	0.00
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	T24E	426.45	0.00
tblEnergyUse	T24E	3.92	0.00
tblEnergyUse	T24NG	6,115.43	0.00
tblFireplaces	NumberGas	6.60	14.08
tblFireplaces	NumberWood	7.48	0.00
tblGrading	AcresOfGrading	0.00	3.00
tblGrading	AcresOfGrading	0.00	4.50
tblLandUse	LandUseSquareFeet	20,480.00	20,478.00
tblLandUse	LandUseSquareFeet	580.00	576.00
tblLandUse	LandUseSquareFeet	44,000.00	97,182.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	296.32
tblSolidWaste	SolidWasteGenerationRate	20.24	0.00
tblSolidWaste	SolidWasteGenerationRate	0.04	0.00
tblVehicleTrips	ST_TR	6.39	2.58
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	5.86	2.58
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	6.65	2.58
tblVehicleTrips	WD_TR	1.89	0.00
tblWater	IndoorWaterUseRate	2,866,777.13	0.00
tblWater	OutdoorWaterUseRate	1,807,316.02	0.00
tblWater	OutdoorWaterUseRate	548,081.42	0.00
tblWoodstoves	NumberCatalytic	0.88	0.00
tblWoodstoves	NumberNoncatalytic	0.88	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.3482	5.2800e-003	0.3272	3.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	2.2918	2.2918	5.5000e-004	3.0000e-005	2.3150
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	0.0212	0.0871	0.2359	9.6000e-004	0.0979	9.6000e-004	0.0989	0.0264	9.0000e-004	0.0273	0.0000	88.8400	88.8400	3.6000e-003	0.0000	88.9301
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	**0.3694**	**0.0924**	**0.5631**	**9.9000e-004**	**0.0979**	**2.8900e-003**	**0.1008**	**0.0264**	**2.8300e-003**	**0.0292**	**0.0000**	**91.1318**	**91.1318**	**4.1500e-003**	**3.0000e-005**	**91.2451**

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	0.3482	5.2800e-003	0.3272	3.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	2.2918	2.2918	5.5000e-004	3.0000e-005	2.3150
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	0.0212	0.0871	0.2359	9.6000e-004	0.0979	9.6000e-004	0.0989	0.0264	9.0000e-004	0.0273	0.0000	88.8400	88.8400	3.6000e-003	0.0000	88.9301
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	**0.3694**	**0.0924**	**0.5631**	**9.9000e-004**	**0.0979**	**2.8900e-003**	**0.1008**	**0.0264**	**2.8300e-003**	**0.0292**	**0.0000**	**91.1318**	**91.1318**	**4.1500e-003**	**3.0000e-005**	**91.2451**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/13/2018	1/12/2018	5	0	
2	Site Preparation	Site Preparation	2/10/2018	2/9/2018	5	0	
3	Grading	Grading	2/15/2018	2/14/2018	5	0	
4	Building Construction	Building Construction	2/23/2018	2/22/2018	5	0	
5	Paving	Paving	12/28/2018	12/27/2018	5	0	
6	Architectural Coating	Architectural Coating	1/11/2019	1/10/2019	5	0	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0.48

Residential Indoor: 196,794; Residential Outdoor: 65,598; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,263 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

3333 CalSF - Mayfair Townhouse Variant - San Francisco 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	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	49.00	11.00	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	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

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

3.2 Demolition - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.2 Demolition - 2018

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

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

3.4 Grading - 2018

Unmitigated Construction On-Site

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

3.4 Grading - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.4 Grading - 2018

Mitigated Construction Off-Site

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

3.5 Building Construction - 2018

Unmitigated Construction On-Site

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

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.5 Building Construction - 2018

Mitigated Construction Off-Site

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

3.6 Paving - 2018

Unmitigated Construction On-Site

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

3.6 Paving - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.6 Paving - 2018

Mitigated Construction Off-Site

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

3.7 Architectural Coating - 2019

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0212	0.0871	0.2359	9.6000e-004	0.0979	9.6000e-004	0.0989	0.0264	9.0000e-004	0.0273	0.0000	88.8400	88.8400	3.6000e-003	0.0000	88.9301
Unmitigated	0.0212	0.0871	0.2359	9.6000e-004	0.0979	9.6000e-004	0.0989	0.0264	9.0000e-004	0.0273	0.0000	88.8400	88.8400	3.6000e-003	0.0000	88.9301

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	113.52	113.52	113.52	262,187	262,187
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	113.52	113.52	113.52	262,187	262,187

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	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
Apartments Mid Rise	0.603481	0.036963	0.193002	0.091056	0.012889	0.005184	0.033230	0.009471	0.004272	0.002983	0.005952	0.000956	0.000561
City Park	0.603481	0.036963	0.193002	0.091056	0.012889	0.005184	0.033230	0.009471	0.004272	0.002983	0.005952	0.000956	0.000561
Enclosed Parking with Elevator	0.603481	0.036963	0.193002	0.091056	0.012889	0.005184	0.033230	0.009471	0.004272	0.002983	0.005952	0.000956	0.000561
Parking Lot	0.603481	0.036963	0.193002	0.091056	0.012889	0.005184	0.033230	0.009471	0.004272	0.002983	0.005952	0.000956	0.000561

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	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	0.0000
City Park	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	0.0000
Enclosed Parking with Elevator	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	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	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3482	5.2800e-003	0.3272	3.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	2.2918	2.2918	5.5000e-004	3.0000e-005	2.3150
Unmitigated	0.3482	5.2800e-003	0.3272	3.0000e-005		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	2.2918	2.2918	5.5000e-004	3.0000e-005	2.3150

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0689					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.8000e-004	1.5200e-003	6.5000e-004	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7577	1.7577	3.0000e-005	3.0000e-005	1.7682
Landscaping	9.8200e-003	3.7600e-003	0.3266	2.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	0.5341	0.5341	5.1000e-004	0.0000	0.5469
Total	**0.3482**	**5.2800e-003**	**0.3272**	**3.0000e-005**		**1.9300e-003**	**1.9300e-003**		**1.9300e-003**	**1.9300e-003**	**0.0000**	**2.2918**	**2.2918**	**5.4000e-004**	**3.0000e-005**	**2.3150**

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	0.0689					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.8000e-004	1.5200e-003	6.5000e-004	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7577	1.7577	3.0000e-005	3.0000e-005	1.7682
Landscaping	9.8200e-003	3.7600e-003	0.3266	2.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	0.5341	0.5341	5.1000e-004	0.0000	0.5469
Total	**0.3482**	**5.2800e-003**	**0.3272**	**3.0000e-005**		**1.9300e-003**	**1.9300e-003**		**1.9300e-003**	**1.9300e-003**	**0.0000**	**2.2918**	**2.2918**	**5.4000e-004**	**3.0000e-005**	**2.3150**

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

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			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX 3
ADDITIONAL SUPPORTING INFORMATION

Construction

- **CO-1**: *Please provide construction schedule for the new buildings and the renovation schedule for the existing office building and show all overlaps.*

  Describe demolition, excavation, and construction activities for the new buildings that will occur while the existing office building is still occupied?

  Will new buildings on the project site be occupied when demolition of the south wing of the existing building and demolition of portions of the existing buildings' east and west wings (for interior renovations and seismic upgrade work) commences?

  Construction stages are: demolition, excavation, foundations, structure, exterior finishing, interior.

  - *Duration (weeks) for each stage*
  - *Duration (weeks) of lane closures and sidewalk closures by stage*
  - *Timing of shifts*
  - *Hours of construction on weekdays and weekends for each stage*

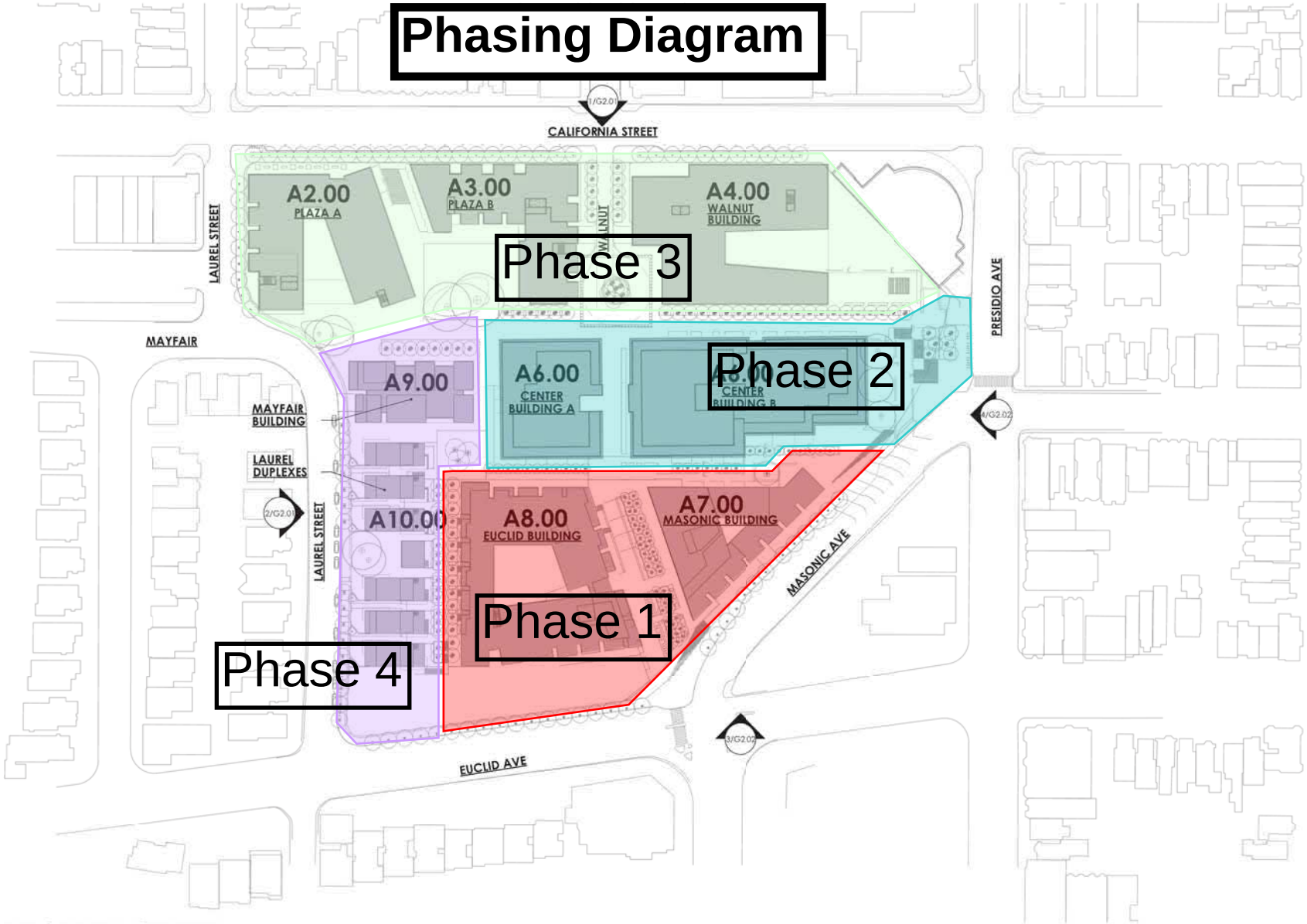
1. **See attached preliminary project schedule showing new buildings (Phases 1, 3 and 4), Renovation (Phase 2) and Overlaps.**

2. From the onset of Phase 1 the entire site will be unoccupied. The existing building demolition will commence in sequence with the Phased construction plan. Interior renovations for the Phase 2 building will be ongoing when the Phase 1 project nears completion and becomes occupied.

3. Project shift times will be weekdays from 7am – 3:30pm with occasional weekend work required.

Duration for Each stage			
Project Element/Phase	**Start Date**	**End Date**	**Number of Work Days**
1. 3333 California Street			
Masonic/Euclid	3/2/2020	8/19/2022	645
Center Buildings A/B	9/10/2021	8/31/2023	515
Plaza A/Plaza B/Walnut	12/4/2022	11/18/2025	773
Mayfair/T-house/Euclid Park	5/22/2025	1/12/2027	429
Shift Times			
Project Element/Phase	**Weekdays**	**Weekends**	**Number of Work Days**
2. 3333 California Street			
Masonic/Euclid	7 AM – 3:30PM	7 AM – 3:30PM	645
Center Buildings A/B	7 AM – 3:30PM	7 AM – 3:30PM	515
Plaza A/Plaza B/Walnut	7 AM – 3:30PM	7 AM – 3:30PM	773
Mayfair/T-house/Euclid Park	7 AM – 3:30PM	7 AM – 3:30PM	429

Phasing Diagram



"PRESIDIO BUILDING" REMOVED FROM PROJECT - A5 SERIES OMITTED

3333 CALIFORNIA STREET SAN FRANCISCO, CA

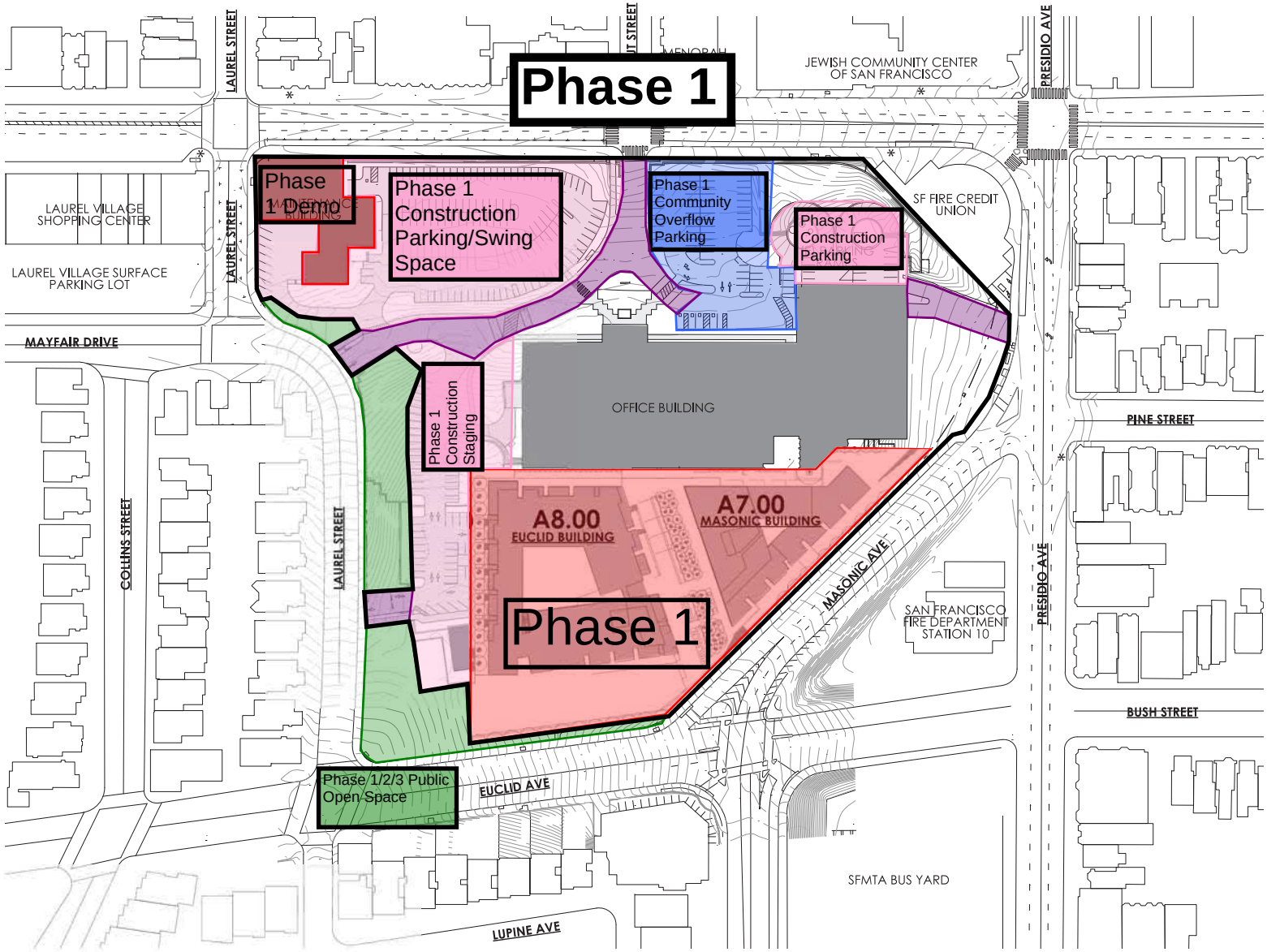
KEYING SITE PLAN - PROPOSED

PRADO GROUP | SKS | JAMES CORNER FIELD OPERATIONS | MEYER + SILVERBERG | ARUP | BAR architects | JENSEN | SCB

03.06.2017
REVISED EEA SUBMITTAL

0 30' 60' 120' 180'

G1.02



3333 CALIFORNIA STREET SAN FRANCISCO, CA

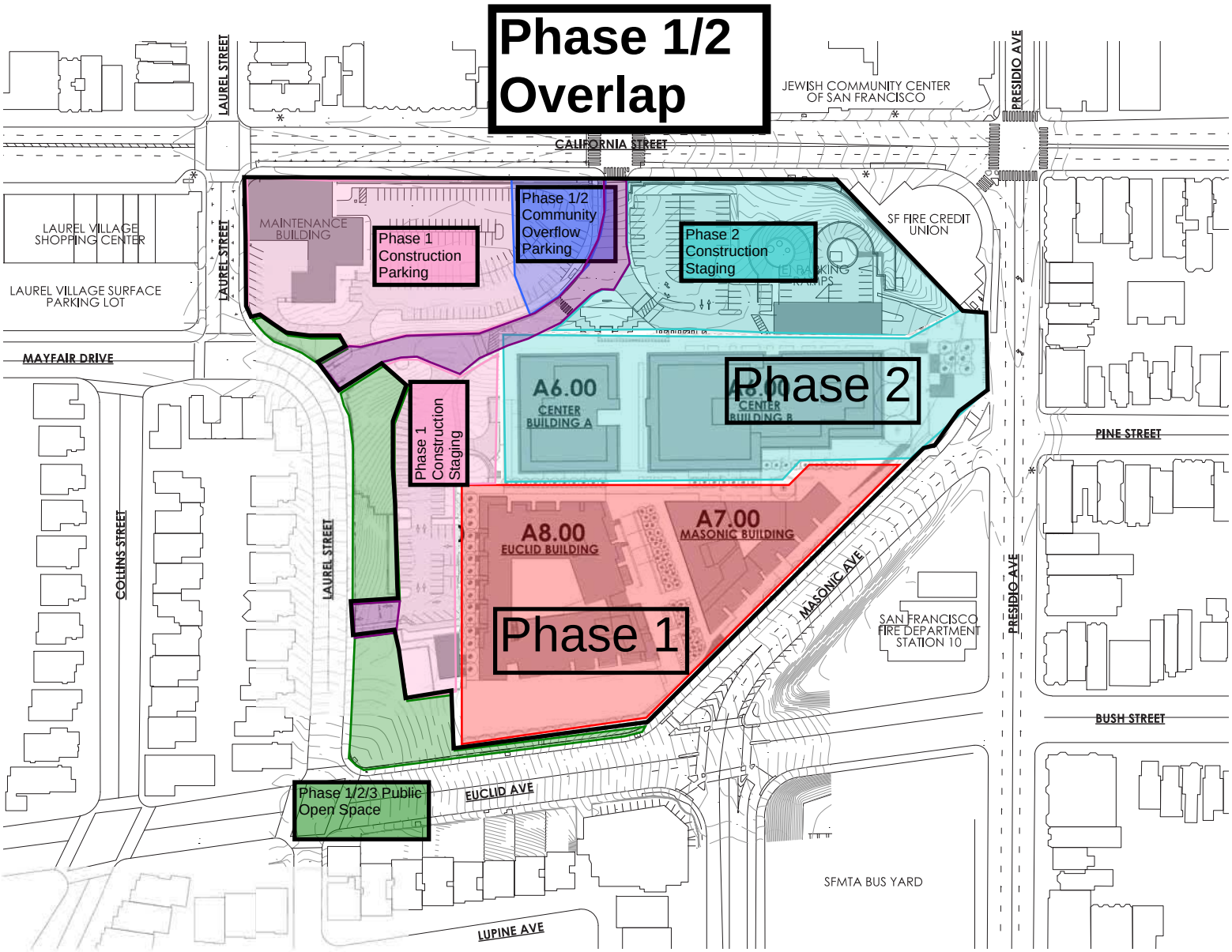
SITE PLAN - EXISTING

PRADO GROUP | SKS | JAMES CORNER FIELD OPERATIONS | MEYER + SILVERBERG | ARUP | BAR architects | JENSEN | SCB

03.06.2017
REVISED EEA SUBMITTAL

0 30' 60' 120' 180'

G1.01

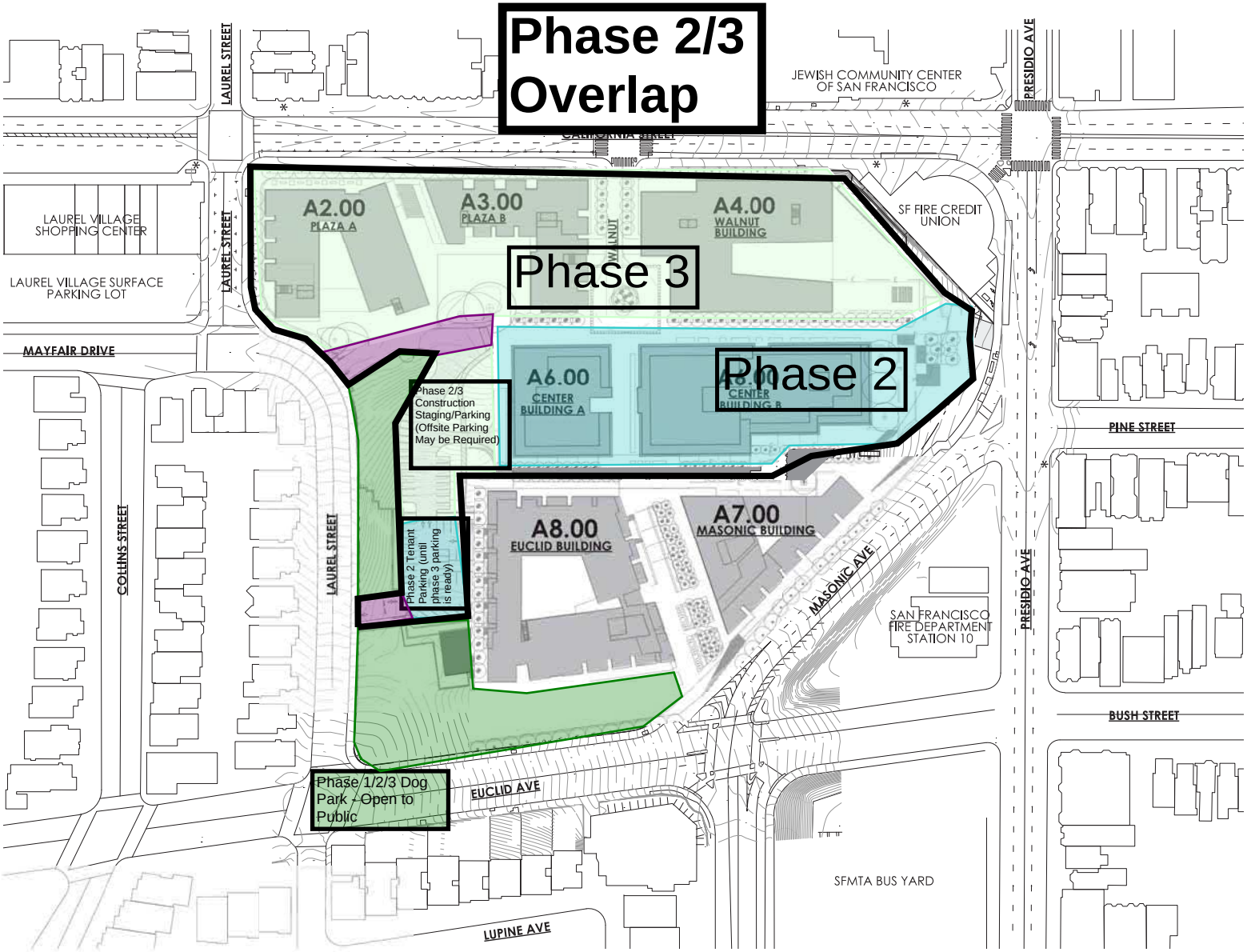


3333 CALIFORNIA STREET SAN FRANCISCO, CA

SITE PLAN - EXISTING

03.06.2017
REVISED EEA SUBMITTAL

G1.01



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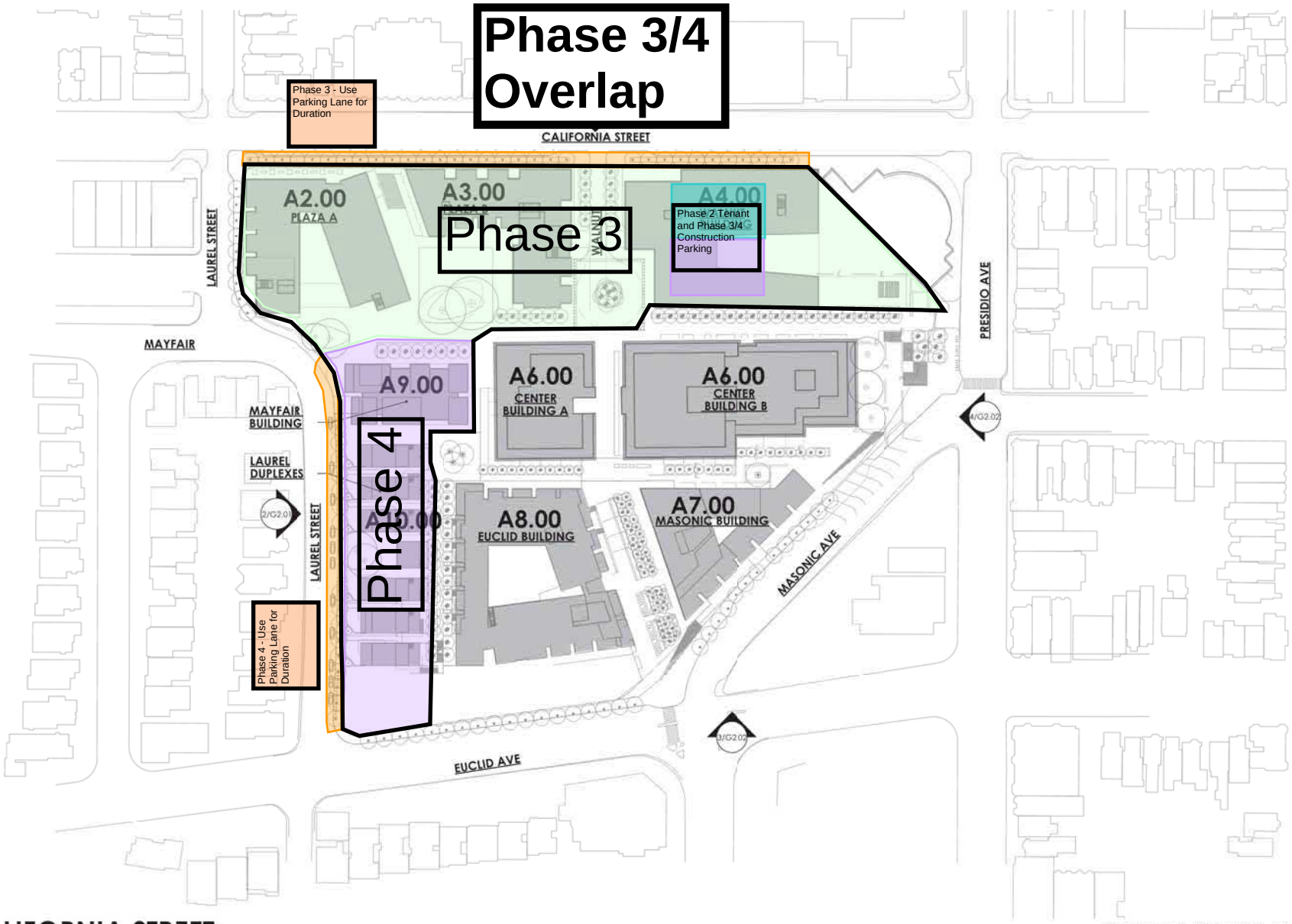

"PRESIDIO BUILDING" REMOVED FROM PROJECT - A5 SERIES OMITTED

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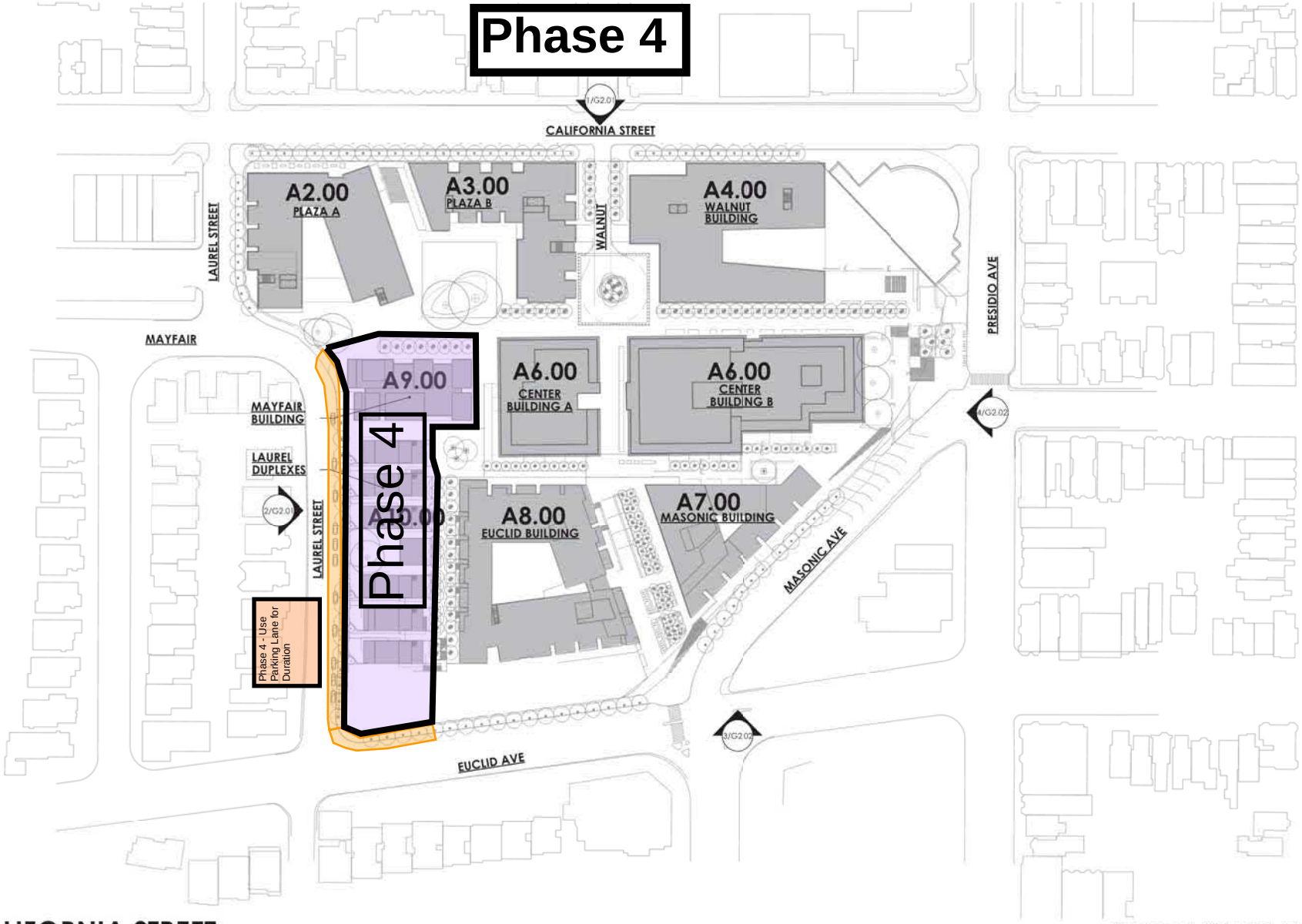
G1.02



"PRESIDIO BUILDING" REMOVED FROM PROJECT - A5 SERIES OMITTED

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PRADO GROUP | SKS | JAMES CORNER FIELD OPERATIONS | MEYER + SILVERBERG | ARUP | BAR architects | JENSEN | SCB

03.06.2017
REVISED EEA SUBMITTAL

0 30' 60' 120' 180'

G1.02

CO-2 Construction Equipment

Equipment Type	Fuel	Number of Pieces	Days of Use	Hours/Day	Phase(s), if applicable
Aerial Lifts	Diesel	2	SKIN	8	ALL
Air Compressors	Diesel	2	DEMO	5	ALL
Cranes	Elec	2	TOWER	8	ALL
Crawler Tractors with Rippers	Diesel	1	EXCAVATION	8	ALL
Excavators	Diesel	2	EXCAVATION	8	ALL
Excavators with Hoe Ram	Diesel	2	EXCAVATION	8	ALL
Forklifts	Propane	1	EXTERIOR	8	All
Other General Industrial Equipment	Gasoline	X		8	ALL
Pavers	Diesel	1	EXTERIOR	8	Street Paving
Paving Equipment	Diesel	1	EXTERIOR	8	Street Paving
Pumps	Diesel	1	STRUCTURE	8	Pour Days Only
Rollers	Diesel	1	4	6	Street Paving
Rough Terrain Forklifts	Diesel	2	Gradeall	8	ALL
Signal Boards	Elec	2	ALL	24/7	Phase 3/Phase 4
Skid Steer Loaders (Bobcat)	Diesel	1	Demo	8	ALL
Sweepers/Scrubbers	Gasoline	1	Street Clean	3	ALL
Tractors/Loaders/Backhoes	Diesel	2	EXCAVATION	8	ALL
Welders	Elec	2	STRUCTURE	8	ALL

- **CO-3:** *Construction workers for each construction stage.*
  - *Average number of workers by shift*
  - *Maximum number of workers by shift*
  - *Any information on mode of access of construction workers (e.g., car, transit, walking)*

1. Project manpower requirements typically follow a bell curve with fewer workers at the beginning and end of a project. The maximum number of workers for each phase will be at their peak from the end of structure through exterior and will taper off at the end of interiors. These 'bell curves' will overlap for the phases as well. We expect half of the workforce to drive and the other half to take alternate means of transportation.

Project Element/Phase	Work Days	Average Number of Workers	Maxiumum Number of Workers
Masonic/Euclid	645	90	175
Center Buildings A/B	515	75	150
Plaza A/Plaza B/Walnut	773	90	175
Mayfair/T-house/Euclid Park	429	75	175

- **CO-4:** *Location of parking for construction workers for each construction stage.*
  - *Locations and number of spaces at each location*
  - *If offsite, will worker shuttles be provided? Describe.*

Phase Overlap			
Project Element/Phase	**Method/Location**	**Shuttle Required**	**Approx # of Spaces Req**
Phase 1	Onsite – Phase 3	No	100
Phase 1/Phase 2 Overlap	Onsite – Phase 3	No	200
Phase 2	Onsite – Phase 3	No	100
Phase 2/Phase 3 Overlap	Onsite – Phase 4	No	200
Phase 3	Onsite – Phase 4	No	100
Phase 3/Phase 4 Overlap	Onsite – Phase 3 (new)	No	200
Phase 4	Offsite	Yes	100

1. See map below for the closest three parking garages to the project site. These parking garages will only be required for construction parking during the end of Phase 4. All other phases will utilize onsite parking.

- **CO-5:** *Construction truck trips for each construction stage.*
  - *Average number of trucks per shift and per day*
  - *Maximum number of trucks per shift and per day (typically during excavation)*
  - *For concrete pours, give separate truck information and description of activities.*

1. **See attached models showing the existing topography compared to the new topography.**

2. Excavation and demolition will be 1 shift per day with the below table showing the average number of truck trips per day and the possible maximum number of truck trips per day.

Project Element/Phase	Duration of Demo/Excavation	Avg. Trips Per Day During Demo/Excavation	Maximum Trips Per Day	Total # of Trips
Masonic/Euclid	7 months	60	80	8,178
Center Buildings A/B	1 month	10	10	121
Plaza A/Plaza B/Walnut	7 months	60	80	8,157
Mayfair/T-house/Euclid Park	2 months	60	80	1,566

Laurel Heights
Utilities Data

FY1415	GAS	ELECTRICITY	WATER
Month	Therms	KWH	CCF
Jul-14	11,350	342,443	1,110
Aug-14	10,640	353,986	994
Sep-14	-	361,968	593
Total	**21,990**	**1,058,397**	**2,697**

FY1314	GAS	ELECTRICITY	WATER
Month	Therms	KWH	CCF
Jul-13	9,850	355,705	1,168
Aug-13	10,935	325,269	984
Sep-13	11,317	357,431	1,271
Oct-13	7,253	363,280	1,286
Nov-13	10,004	339,480	508
Dec-13	9,991	321,227	720
Jan-14	12,616	324,316	770
Feb-14	12,576	338,539	520
Mar-14	11,690	355,557	608
Apr-14	10,638	321,585	444
May-14	10,855	350,958	668
Jun-14	11,813	344,803	886
Total	**129,538**	**4,098,150**	**9,833**

FY1213	GAS	ELECTRICITY	WATER
Month	Therms	KWH	CCF
Jul-12	8,177	355,352	1,314
Aug-12	8,129	336,804	977
Sep-12	8,633	343,872	920
Oct-12	8,618	342,295	748
Nov-12	6,782	295,884	1,120
Dec-12	11,532	331,613	734
Jan-13	9,228	328,046	369
Feb-13	12,308	333,171	378
Mar-13	11,834	338,977	473
Apr-13	10,551	332,124	722
May-13	10,226	344,880	1,030
Jun-13	9,638	330,840	1,075
Total	**115,656**	**4,013,858**	**9,860**

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July 23,2018

Julie Moore, Environmental Planner
San Francisco Planning
1650 Mission Street, Suite 400
San Francisco, CA 94103

Re: REVISED Final 3333 California Street Mixed-Use Project Energy Assessment / Case No. 2015-014028ENV

Dear Ms. Moore:

SWCA Environmental Consultants updated minor errors in the April 12, 2018 energy assessment and calculations prepared for the proposed 3333 California Street Mixed-Use Project (proposed project) and project variant pursuant to Appendix F: Energy Conservation of the California Environmental Quality Act (CEQA) Guidelines.

Minor errors were identified by Ramboll during quantification of greenhouse gas emissions pursuant to AB900 requirements. The errors were related to an incorrect conversion factor "1 kBTU=3.412 kWh". In addition, one of the underlying formulas in the attached spreadsheets did not include all cell values.

The changes below are shown in double underline and strikethrough and are called out in the attached REVISED Final Energy Assessment dated July 23, 2018 using a "revision symbol" in the left hand margin of the page.

Last paragraph on p. A-2 in the Energy Assessment should read as follows:

> "Two tower cranes (179 kW) each would be used for the tower phase of construction over 1,054 days (8,432 hours), resulting in 3,018,656 kWh of electricity use. Including the additional electric construction equipment, the estimated total energy use during construction may increase to approximately ~~6,000,000~~ 7,170,000 kWh. Electricity use estimates are the same for the proposed project and project variant."

The note in Table 4. Operational Energy Use – Buildings on p. A-4 should read as follows:

> "1 ~~kBTU~~ kWh = 3.412 ~~kWh~~ kBTU

Second to last paragraph on p. A-10 should read as follows:

> "As shown on Table 10, the estimated renewable energy output is 4,485,641 kBTU/year (~~1,315,626~~ 1,314,666 kWh/year) for PV systems and 2,084,000 kBTU/year (610,786 kWh/year) for solar hot water heaters. The roof area allocated to solar equipment is consistent between the proposed project and the project variant; therefore, the estimated renewable energy production in the proposed case remains the same under the variant."

The calculations attached to the April 12, 2018 energy assessment have been updated. No other changes are needed for the revised energy assessment or calculations. This update replaces the April 12, 208 version in your Administrative Record files. All Initial Study Administrative Record CDs should be recycled.

The energy assessment provides the basis for the discussion in Section E.16 (Mineral and Energy Resources) of the Initial Study. The updated numbers are not substantially different from those in the original assessment thus conclusions regarding the effects of the construction and operation energy usage will not change. However, minor updates must be made to the Initial Study to update text and numbers (see p. 243 under "Construction" and footnote 318 and p. 244 – first full paragraph). These will be completed as part of staff-initiated text changes when the Response to Comments phase commences.

If there are any questions or concerns, please contact me.

Sincerely,

Peter Mye

Peter A. Mye
Senior Planner

Attachment

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April 12, 2018

Julie Moore, Environmental Planner
San Francisco Planning
1650 Mission Street, Suite 400
San Francisco, CA 94103

Re: 3333 California Street Mixed-Use Project Energy Assessment / Case No. 2015-014028ENV

Dear Ms. Moore:

SWCA Environmental, with input from ARUP and Ramboll, conducted an energy assessment for the proposed 3333 California Street Mixed-Use Project (proposed project) and the Mixed Use Multi-Family Housing Variant (project variant). The energy assessment provides the basis for the discussion in Section E.16 (Mineral and Energy Resources) of the Initial Study and evaluates energy use associated with construction and operation of the proposed project and the project variant.

The analysis was prepared pursuant to Appendix F: Energy Conservation of the California Environmental Quality Act (CEQA) Guidelines. Appendix F of the CEQA Guidelines requires lead agencies to address the construction-related and operational energy impacts of a project, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. Energy conservation is defined as a goal in Appendix F - the wise and efficient use of energy - and the means to achieving this goal are:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on natural gas and oil; and
- Increasing reliance on renewable energy sources.

Sincerely,

Amanda Tyrrell

Amanda Tyrrell
Senior Environmental Planner

Attachment

REVISED ATTACHMENT A. ENERGY ASSESSMENT

EXISTING REGIONAL ENERGY SUPPLY AND DEMAND

This section summarizes the existing energy supply mix from renewable and non-renewable sources and energy demand for the San Francisco Bay Area region.

Pacific Gas and Electric Company (PG&E) primarily supplies power to customers in San Francisco from a variety of renewable and non-renewable sources both within and outside of the State. In 2016, PG&E's resource mix was approximately 33 percent renewables, 24 percent nuclear, 17 percent natural gas, 14 percent unspecified sources, and 12 percent large hydroelectric.[1] The San Francisco Public Utilities Commission (SFPUC) provides clean energy to select local residential and business communities and for public transit. The SFPUC owns and operates the Hetch Hetchy Power System, a clean energy system that draws its power from hydroelectric, solar, and biomass/biowaste sources.

Electrical energy demand is measured by power flow, expressed in kilowatt-hours (kWh) and in gigawatt-hours when describing large-scale uses, such as a city. San Francisco uses about 6,000 gigawatt-hours of electricity per year, and this use is expected to grow at a rate of 1.3 percent per year to about 8,000 gigawatt-hours by 2030.[2]

Natural gas is measured in cubic feet of gas or by its heat content in British Thermal Units (BTU), or therms. PG&E supplies natural gas to San Francisco from sources in the western United States. Natural gas is commonly used to generate electricity and for heating in California, and compressed and liquefied natural gas is a viable alternative transportation fuel. Natural gas demand is projected to remain relatively flat as energy efficiency measures are expected to continue to reduce demand, but closure of nuclear generating facilities will require some replacement generation from natural gas in California.[3]

Petroleum-based fuels, including diesel and gasoline, are measured in gallons and consumed almost exclusively by the transportation sector in California. Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles.[4] Construction equipment typically uses diesel fuel.

PROPOSED ENERGY DEMAND

This section describes the energy demand associated with construction and operation of the proposed project and the project variant.

Construction Energy Demand

Energy use associated with phased construction of the proposed project or project variant would include electricity usage associated with water consumption for dust control and use of electric equipment, diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips. The methodology and estimated energy demands for each category are provided below.

[1] Pacific Gas & Electric Company (PG&E), "Clean Energy Solutions". Available at https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy. Accessed January 18, 2018.
[2] San Francisco Public Utilities Commission (SFPUC), "San Francisco's Updated Electricity Resource Plan". Available at http://sfwater.org/index.aspx?page=700. Accessed January 18, 2018.
[3] California Energy Commission (CEC). "2013 Natural Gas Issues, Trends, and Outlook". Available at http://www.energy.ca.gov/2014publications/CEC-200-2014-001/CEC-200-2014-001-SF.pdf. Accessed January 18, 2018.
[4] CEC. "California Gasoline Data, Facts, and Statistics". Available at http://www.energy.ca.gov/almanac/transportation_data/gasoline. Accessed January 18, 2018.

Electricity – Water for Construction Dust Control

Electricity use associated with water for construction dust control is based on the total water consumption and energy intensity for supply, distribution, and treatment of water consumed for dust control over the phased construction. Total gallons of water consumed is based on the estimated acreage of ground disturbance during grading and site preparation.[5] The California Emissions Estimator Model (CalEEMod) provides the estimated energy intensity per gallon of water for San Francisco County shown in Table 1.

As shown in Table 1, electricity use for construction of the proposed project or the project variant are the same, approximately 1,226 kWh.

Table 1. Construction Electricity Use – Water for Dust Control

	Proposed Project	Project Variant
Ground disturbance (acres per day)*	0.21	0.21
Water consumption rate per acre disturbed (gallons per acre per day)	3,020	3,020
Number of days	354	354
Total water consumption (gallons)	**226,500**	**226,500**
Energy intensity per gallon of water (kWh)	**0.005411**	**0.005411**
Total electricity use (kWh)	**1,226**	**1,226**

*Acreage factors in multiple levels of grading at the site during the excavation phase of construction. To be conservative, a total of 75 acres of ground disturbance is assumed for construction of the proposed project and the project variant based on the CalEEMod defaults for the specified mix of land uses.

Electricity – Construction Equipment[6]

Electricity demand from off-road construction equipment is estimated based on the size and type of the equipment and total hours of usage. Usage information of electric construction equipment was provided for tower cranes (179 kW each). Total hours is equal to the total number of days the tower cranes would be used (i.e., 1,054 days) multiplied by 8 work hours per day. Cutting and chopping saws, saw cutter, tile cutting saws, and dry wall stud impact guns may also be used (approximately 1 to 5 kW each), as well as welders and signal boards (approximately 18 to 20 kW each). Since equipment sizes were not provided except for tower cranes, available information was used to estimate energy use.[7,8,9]

Two tower cranes (179 kW) each would be used for the tower phase of construction over 1,054 days (8,432 hours), resulting in 3,018,656 kWh of electricity use. Including the additional electric construction equipment, the estimated total energy use during construction may increase to approximately ~~6,000,000~~ 7,170,000 kWh. Electricity use estimates are the same for the proposed project and project variant.

[5] The water application rate of 3,020 gallons per acre is from the Air & Waste Management Association's Air Pollution Engineering Manual (1992).
[6] Denney, Brad, Vice President, Webcor, e-mail correspondences with Peter Mye, SWCA, about details of preliminary construction phasing schedule and construction equipment, September and October 2017.
[7] Ramboll Environ. "Analysis of Energy Use Associated with the Proposed Golden State Warriors Project, San Francisco, California". October 19, 2015. Available at http://www.gsweventcenter.com/GSW_RTC_References/2015_1019_Ramboll_Environ.pdf. Accessed January 24, 2018.
[8] Miller Electric Mfg., LLC. "Welding Guide to Power Efficiency". Available at
[9] Young, Gregory. "The Basics of Digital Signage and Energy Consumption". Available at www.scenic.org/storage/documents/EXCERPT_The_Basics_of_Digital_Signage_and_Energy_Consumption.pdf. Accessed March 16, 2018.

Fuel – Off-road Construction Equipment

Diesel fuel usage from off-road construction equipment is estimated based on equipment usages (total equipment horsepower-hours) and is calculated using a fuel usage rate for gallons of diesel per horsepower-hour.[10] Off-road construction equipment fueled by diesel includes aerial lifts, air compressors, excavators, pavers, pumps, rollers, forklifts, tractors, loaders, and backhoes.

Construction of the proposed project or project variant would both use approximately 431,158 gallons of diesel for off-road construction equipment, as shown in Table 2.

Table 2. Construction Diesel Use – Off-road Equipment

	Proposed Project	Project Variant
Total diesel equipment use (horsepower-hours)	8,623,158	8,623,158
Gallons of diesel per horsepower-hour	0.05	0.05
Total diesel use (gallons)	**431,158**	**431,158**

Fuel – On-road Construction Trips

Energy demand associated with diesel fuel usage from on-road construction truck trips and fuel usage (such as gasoline or gasoline/hybrid) from worker commute trips is based on Vehicle Miles Traveled (VMT) and projected fuel efficiency in miles per gallon.[11,12] All vendor trucks are assumed to be medium-heavy duty, all concrete trucks are assumed to be heavy-heavy duty, and all hauling trucks are assumed to be heavy-heavy duty. Worker vehicles are assumed to be 50 percent light-duty auto, 25 percent light-duty auto type 1, and 25 percent light-duty auto type 2. In Table 3, concrete trucks are categorized in the heavy-heavy duty vendor row.

Approximately 149,829 gallons of diesel and 220,202 gallons of gasoline would be used for on-road trips during construction of the proposed project. The estimated fuel use would be the same for the project variant.

Operational Energy Demand

Energy use associated with operation of the proposed project or project variant would include on-site usage associated with buildings; electricity for off-site water treatment and distribution; and fuel from mobile sources. The methodology and estimated energy demands for each category are provided below.

Natural Gas and Electricity – Buildings

Per-building energy use estimates for the proposed project and project variant, including electricity associated with cooling, natural gas use associated with heating, and additional electricity use, were estimated using the proposed square footages and program-specific, California Code of Regulations

[10] The fuel usage rate of 0.05 gallons of diesel per horsepower-hour is based on the South Coast Air Quality Management District CEQA Air Quality Handbook, Table A9-3E.
[11] Fuel efficiency miles per gallon for construction is based on EMFAC2011.
[12] Bowie, Ted, Senior Managing Consultant, Ramboll Environ, e-mail correspondence with Amanda Tyrrell, SWCA, regarding vehicle miles traveled by vehicle type for construction of the proposed project and project variant, January 17, 2018.

Title 24 (referred to as "Title 24") 2013-compliant energy use intensities reported in the PG&E Zero Net Energy Feasibility Study.[13] The energy use intensities include site end uses, such as outdoor lighting.

As shown in Table 4, the total energy use for on-site buildings would be approximately 37,547,861 kBTU/year for the proposed project. The project variant would have a slightly higher energy use, approximately 40,039,142 kBTU/year.

Table 3. Construction Fuel Use – On-road Trips

		Proposed Project and Project Variant	
Vehicle Type	**Trip Type**	**Vehicle Miles Traveled**	**Miles Per Gallon**
Diesel, medium heavy-duty	Vendor	65,100	8.4
Diesel, heavy heavy-duty	Vendor	96,600	5.5
Diesel, heavy heavy-duty	Hauling	684,836	5.5
Total diesel use (gallons)			**149,829**
Gasoline, light-duty auto	Worker	2,123,094	21.8
Gasoline, light-duty truck type 1	Worker	1,061,547	18.8
Gasoline, light-duty truck type 2	Worker	1,061,547	16.0
Total gasoline use (gallons)			**220,202**

- **Table 4. Operational Energy Use – Buildings**

	Proposed Project	Project Variant
Natural Gas		
Heating (kBTU/year)	10,854,013	12,104,102
Electricity		
Cooling (kBTU/year)*	1,084,440	1,217,713
Additional Electricity Use (kBTU/year)	25,609,409	26,717,327
Total energy use (kBTU/year)	**37,547,861**	**40,039,142**

- * 1 ~~kBTU~~ kWh = 3.412 ~~kWh~~ kBTU

Peak energy demand in California occurs on hot summer days when the cooling load is greatest; however, in the cool San Francisco Bay climate, peak demand may occur on a cold winter evening when the heating load is greatest (where electric heat is used). Peak energy demand was estimated for both the proposed project and the project variant. Peak energy demand was estimated using the proposed square footages and program- and climate-specific American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 90.1-2013 compliant Department of Energy reference building energy models.

As shown in Table 5, the operational peak energy demand associated with building use for the proposed project is approximately 14.3 MMBTU/hour. The project variant would have a slightly higher operational peak energy demand, approximately 15.1 MMBTU/hour.

[13] PG&E, "The Technical Feasibility of Zero Net Energy Buildings in California". December 2012. Available at https://www.energydataweb.com/cpucfiles/pdadocs/904/california_zne_technical_feasibility_report_final.pdf. Accessed January 18, 2018.

Table 5. Operational Peak Energy Use – Buildings

	Proposed Project	Project Variant
Natural Gas		
Heating (MMBTU/hour)	3.9	4.1
Electricity		
Cooling (MMBTU/hour)*	6.3	6.6
Additional Electricity Use (MMBTU/hour)	4.1	4.4
Total peak energy use (MMBTU/hour)	**14.3**	**15.1**

* 1 MMBTU = 1 million BTU

Electricity – Water Treatment and Distribution

Project water demand was estimated from square footages and projected occupancy, and code-compliant plumbing fixture types and irrigation levels using the SFPUC's preferred tool for project water use estimation, and is consistent with the Water Supply Assessment for the proposed project and project variant. Indoor and outdoor electricity intensity factors were obtained from the 2006 California Energy Commission (CEC) report, "*Refining Estimates of Water-Related Energy Use in California*".[14] These factors are reported in kWh per million gallons of water used and are specific to northern California. These intensity factors represent the electricity required to: (1) supply and convey water from source to site; (2) treat the water to usable standards; (3) distribute the water to individual users. The indoor intensity factor includes the electricity required to process resultant wastewater.[15]

The total electricity use associated with water supply, treatment, and distribution, is shown in Table 6. The proposed project would use approximately 111,430 kWh/year, and the project variant would use approximately 138,915 kWh/year.

Table 6. Operational Electricity Use – Water

	Proposed Project		Project Variant	
Use Type	**Water Demand (gallons/year)**	**Resultant Electricity Use (kWh/year)**	**Water Demand (gallons/year)**	**Resultant Electricity Use (kWh/year)**
Commercial Fixtures	422,000	2,280	229,000	1,238
Residential Fixtures	17,125,000	92,663	22,398,000	121,194
HVAC/Cooling	1,995,000	10,795	1,995,000	10,795
Landscape Irrigation	1,626,000	5,689	1,626,000	5,689
Total electricity use		**111,430**		**138,915**

[14] CEC, "Refining Estimates of Water-Related Energy Use in California". December 2006, CEC-500-2006-118. Available at http://www.energy.ca.gov/pier/project_reports/CEC-500-2006-118.html. Accessed January 18, 2018.

[15] Energy intensity factors may be conservative because they may not fully account for the energy efficiency of San Francisco's water system, which primarily uses gravity flow to convey water from the Hetch Hetchy reservoir to treatment plants in the Bay Area.

Fuel and Electricity – Mobile Sources

Energy use associated with travel demand for the proposed project or project variant includes vehicle trips generated by residents, employees, and visitors to the project site. It also includes energy use from delivery and service vehicle trips that would be generated by the proposed project or project variant. Gasoline, diesel, and natural gas usage from on-road mobile trips during operation is based on total VMT estimated using CalEEMod (used for the proposed project's and project variant's air quality analysis) and fuel efficiency projections.[16] The public transit system in San Francisco also includes electric-powered buses and trains.

All vendor trucks are assumed to be medium-heavy duty and all hauling trucks are assumed to be heavy-heavy duty. Vehicles are assumed to be a mix of light-duty auto, light-duty auto type 1, light-duty auto type 2, medium-duty vehicles, motorcycles, and motor homes. Urban, school, and other buses are assumed to be a mix of gas, diesel, and electric.

As shown in Table 7, mobile sources during operation of the proposed project would use approximately 73,660 gallons of diesel fuel and 416,115 gallons of gasoline per year, based on an estimate of 9,957,096 annual VMT. The project variant would have a slightly higher energy use based on an estimate of 10,133,358 annual VMT, approximately 74,964 gallons of diesel fuel and 423,481 gallons of gasoline per year.

ENERGY CONSERVATION

This section discusses energy conservation features associated with the proposed project and project variant per Appendix F of the CEQA Guidelines. Applicable state and local laws, regulations, and policies that govern energy supply and use are summarized, including incentives that promote energy conservation above that which is required. On-site renewable energy output is also discussed, followed by a description of the energy savings estimates from the energy conservation measures.

Regulatory Framework

At the state level, the Renewable Portfolio Standard (RPS) requires retail sellers of electricity to provide a percentage of their electricity supply from renewable sources by certain years. The CEC, California Public Utilities Commission (CPUC), and PG&E have extensive programs to implement the RPS and otherwise encourage renewable energy.

California Code of Regulations, Title 24 regulates energy efficiency and water efficiency in buildings. The CEC also regulates appliance efficiency and there are California Green Building Standards. The CPUC has required utilities to conduct energy efficiency programs for many years.

San Francisco also has a number of programs to promote energy conservation among residents and businesses. The City has adopted the Electricity Resource Plan and Green Building Code requirements, Stormwater Management and Water Conservation and Irrigation ordinances, and the Energy Conservation Ordinance, which promote energy and water use efficiency. The Environmental Protection Element of the San Francisco General Plan contains goals, objectives, and policies related to energy conservation.

[16] 3333 California Street Mixed-Use Project, Case No. 2015-014028ENV, Draft Environmental Impact Report, Appendix AQ, pdf pp. 54 and 121. Fuel efficiency data for operation is based on EMFAC2014.

Table 7. Operational Energy – Mobile Sources

		Proposed Project		Project Variant	
Vehicle Type	**Fleet Mix**	**Vehicle Miles Traveled (annual)**	**Miles Per Gallon**	**Vehicle Miles Traveled (annual)**	**Miles Per Gallon**
Diesel, medium heavy-duty (MHD)	3.3%	330,874	7.9	336,731	7.9
Diesel, heavy heavy-duty (HHD)*	0.9%	94,304	5.3	95,973	5.3
Diesel, urban buses (UBUS)	0.3%	29,702	4.1	30,228	4.1
Diesel, school buses (SBUS)	0.1%	9,519	7.2	9,687	7.2
Diesel, other buses (OBUS)	0.4%	42,537	8.1	43,290	8.1
Total diesel use (gallons)			**73,660**		**74,964**
Gasoline, light-duty auto (LDA)	60.3%	6,008,918	26.8	6,115,289	26.8
Gasoline, light-duty truck type 1 (LDAT1)	3.7%	368,044	22.7	374,559	22.7
Gasoline, light-duty truck type 2 (LDAT2)	19.3%	1,921,739	20.2	1,955,758	20.2
Gasoline, medium-duty vehicle (MDV)	9.1%	906,653	15.5	922,703	15.5
Gasoline, light-heavy duty truck type 1 (LHD1)	1.3%	128,337	9.6	130,609	9.6
Gasoline, light-heavy duty truck type 2 (LHD2)	0.5%	51,618	8.8	52,531	8.8
Gasoline, motorcycle (MCY)	0.6%	59,265	33.0	60,314	33.0
Gasoline, motor homes (MH)	0.1%	5,586	6.8	5,685	6.8
Total gasoline use (gallons per year)			**416,115**		**423,481**

The City's Commuter Benefits Program, Emergency Ride Home Program, transportation demand management programs, Transportation Sustainability Fee, Jobs-Housing Linkage Program, bicycle parking requirements, low-emission car parking requirements, and car sharing requirements reduce energy use by promoting the use of sustainable transportation modes.

To address waste, the City implemented the Recycling and Compositing Ordinance, the Construction and Demolition Debris Recovery Ordinance, and Green Building Code requirements. These regulations reduce the amount of materials sent to a landfill and promote reuse of materials to conserve embodied energy[17] and reduce the energy required to produce new materials.

A component of San Francisco's larger climate strategy as it relates to energy conservation is documented through the Greenhouse Gas Compliance Checklist, which identifies applicable local and state regulations for public and private projects intended to decrease emissions of greenhouse gases and reduce energy use. These components of the City's Greenhouse Gas Reduction Strategy are coordinated at the local level through the adoption and implementation of city agency-specific Climate Action Strategies and integrated with regional efforts in cooperation with the Bay Area Air Quality Management District. The Greenhouse Gas analysis for the proposed project and project variant is provided in Section E.7 of the Initial Study.

Energy Efficiency

Construction of the proposed project and project variant would require the manufacture of new materials requiring the use of energy. The production of these materials would result in consumption of natural resources including fossil fuels. However, the reuse and recycling of existing materials after demolition of buildings would partially offset the energy needed to produce new materials. San Francisco's construction and demolition debris ordinance requires a minimum recovery rate of 65 percent of building waste. Other energy conservation strategies implemented during construction would be to use energy-efficient equipment that would connect to the existing electrical grid when feasible instead of using diesel generators, and to encourage worker carpooling and use of public transit.

During operation, residential and commercial buildings would use energy for cooling, lighting, water heating, and appliances and electronics. In an effort to decrease energy consumption of residential and commercial buildings, energy efficiency measures would be incorporated into the project design. For the proposed project and project variant, the potential energy savings from combinations of twenty different energy conservation measures were assessed using the Snapshot Efficiency tool. The Snapshot Efficiency Tool is a web-based tool for quickly understanding the potential impact of various efficiency measures.[18] The top five most effective energy conservation measures are identified for each space type in Table 8.

The percentage of energy saved after incorporation of the energy conservation measures into the project design is shown in Table 9. The proposed project would save approximately 26 percent of annual building energy use through energy conservation measures, and the project variant would save approximately 25 percent, compared to energy use without these conservation measures.

[17] Embodied energy is the total energy required for the extraction, processing, manufacture and delivery of building materials to the building site.
[18] Architecture at Zero, "Technical Resources, The Snapshot Efficiency Tool". Available at http://www.architectureatzero.com/technical-resources. Accessed April 9, 2018.

Table 8. Operational Energy – Conservation Measures

Proposed Project and Project Variant Conservation Measures	
Space Type	**Identified Measures***
Residential	Reduce domestic hot water consumption Reduce equipment power density Increase residential water heater efficiency Increase lighting efficiency Increase cooling efficiency
Office	Increase lighting efficiency Increase commercial boiler efficiency Reduce equipment power density Reduce domestic hot water consumption Reduce window solar heat gain coefficient
Retail	Increase lighting efficiency Increase commercial boiler efficiency Reduce equipment power density Reduce domestic hot water consumption Integrate natural ventilation strategies
Child Care	Increase lighting efficiency Reduce equipment power density Increase commercial boiler and residential water heater efficiency Reduce window solar heat gain coefficient Integrate natural ventilation strategies
Parking	Increase lighting efficiency

* Energy conservation measures are ranked from most to least impactful for each space type

Table 9. Operational Energy – Efficiency Savings

	Proposed Project			Project Variant		
Energy Use	**Without Conservation Measures (kBTU/year)**	**Conservation Measures Included (kBTU/year)**	**Estimated Savings (%)**	**Without Conservation Measures (kBTU/year)**	**Conservation Measures Included (kBTU/year)**	**Estimated Savings (%)**
Natural Gas - Heating	10,854,013	10,638,137	2	12,104,102	11,947,129	1
Electricity - Cooling	1,084,440	685,450	37	1,217,713	774,496	36
Additional Electricity Use	25,609,409	16,497,970	36	26,717,327	17,264,515	25
Total	**37,547,861**	**27,821,558**	**26**	**40,039,142**	**29,986,139**	**25**

Renewable Energy

Solar photovoltaic (PV) cells convert sunlight to electricity. PV cells are assembled into a solar module or group of PV cells. Solar modules are placed in an area or added to a larger system to generate and supply electricity for homes and businesses. A system typically includes one or more solar modules (sometimes referred to as an array), equipment to convert direct current electricity to alternating current electricity (i.e., inverters), and connecting wiring.[19] Some systems are designed with batteries to store the generated electricity for later use and/or sun tracking devices to increase the amount of solar energy collected. PV systems can be located on rooftops or mounted on racks on the ground and have a typical life span of approximately 30 years.

Solar water heating systems use energy from the sun to heat water and can replace conventional energy-intensive water heating. Solar water heating systems consist of two main parts: a solar collector and a storage tank.[20] The solar collector absorbs the sunlight. Water flows from the storage tank into small metal tubes located in the collector and is warmed by the absorber plates. The heated water then flows back to the storage tank for use. Larger systems generally consist of an array of smaller heating units, connected in parallel, to provide the desired amount of hot water.

For the proposed project and project variant, approximately 35% of the roof area would be used for on-site renewable energy production from rooftop solar. The projected renewable energy output was estimated for both rooftop PV and rooftop solar hot water based on the proposed design. PV Watts[21] was used to calculate energy production from rooftop solar photovoltaics, assuming SUNPOWER[22] panels. The T*SOL[23] tool was used to calculate the solar hot water energy production from rooftop solar tubes, assuming Ritter tubes.[24]

As shown on Table 10, the estimated renewable energy output is 4,485,641 kBTU/year (~~1,315,626~~ 1,314,666 kWh/year) for PV systems and 2,084,000 kBTU/year (610,786 kWh/year) for solar hot water heaters. The roof area allocated to solar equipment is consistent between the proposed project and the project variant; therefore, the estimated renewable energy production in the proposed case remains the same under the variant.

On-site generation is not included in the building energy use estimates before or after energy conservation measures (see Tables 4 and 9 above). On-site renewable energy generation would further reduce regional energy demand associated with the proposed project or project variant. Table 11 shows that on-site PV renewable electricity generation would save about 17 percent of annual demand on the local electric grid for the proposed project, and 16 percent for the project variant. Solar water heaters would reduce annual natural gas demand by 19 percent for the proposed project and 17 percent for the project variant.

[19] DOE (U.S. Department of Energy), "Solar Photovoltaic Technology Basics." Available online at: https://energy.gov/eere/solar/articles/solar-photovoltaic-technology-basics. Accessed January 17, 2018.
[20] DOE (U.S. Department of Energy), "Solar Water Heaters." Available online at: https://energy.gov/energysaver/solar-water-heaters. Accessed January 17, 2018.
[21] National Renewable Energy Lab. PVWatts v5.3.8. pvwatts.nrel.org.
[22] SUNPOWER: SPR-E20-435-COM SPR-E19-410-COM. Efficiency: 19%. Module area: 21.5 ft^2.
[23] Valentin Software. T*SOL Dynamic Thermal Simulation Software v5.5. www.valentinsoftware.com.
[24] Ritter CPC 14 XL (gross surface area: 28.2 ft^2)

Table 10. Operational Energy – Renewable Generation

	Proposed Project and Project Variant		
Building	**Proposed Total Solar Equipment Area (square feet)**	**Estimated PV Energy Output (kBTU/year)**	**Estimated Solar Hot Water Energy Output (kBTU/year)**
Center Building A	0	0	0
Center Building B	2,597	180,864	82,000
Plaza A Building	12,190	795,497	380,000
Plaza B Building	11,812	828,163	384,000
Walnut Building	19,771	1,397,159	635,000
Masonic Building	0	0	0
Euclid Building	9,036	638,342	289,000
Laurel Duplexes	6,384	394,514	207,000
Mayfair Building	3,550	251,107	107,000
Total	**65,340**	**4,485,641**	**2,084,000**

Overall, renewable generation would save about 17 percent of annual operational building energy demand for the proposed project and 16 percent for the project variant. Energy conservation measures would save an additional 26 percent of annual building energy use and the project variant would save approximately 25 percent. The building energy use estimates before conservation measures are assumed to be Title 24-2013 equivalent, and the energy use estimates after conservation represent savings compared to Title 24. With implementation of the energy conservation measures and on-site renewable energy generation, the proposed project and project variant would meet and improve upon the Title 24 Part 6 building energy efficiency standards.

Table 11. Operational Energy – Renewable Generation Energy Savings

	Proposed Project			Project Variant		
Energy Use	**Without Energy Conservation Measures (kBTU/year)**	**Generation Included (kBTU/year)**	**Estimated Savings (%)**	**Without Energy Conservation Measures (kBTU/year)**	**Generation Included (kBTU/year)**	**Estimated Savings (%)**
Natural Gas	10,854,013	8,770,013	19%	12,104,102	10,020,102	17%
Electricity	26,693,849	22,208,208	17%	27,935,040	23,449,399	16%
Total	**37,547,862**	**30,978,221**	**17%**	**40,039,142**	**33,469,501**	**16%**

CONCLUSION

Operation of the project would increase the intensity of existing energy use of the site by introducing new residential, retail/restaurant, office, and child care uses on the site, replacing the current office and child care uses. Under the project variant, there would be slightly more residential use and less retail/restaurant and child care uses and no office use. The proposed project or project variant would contribute to annual long-term increases in energy use as a result of increased vehicle trips (mobile sources) and residential, retail/restaurant, office, and child care operations. Construction activities would also result in temporary increases energy use.

Energy conservation design features to meet state and local goals for energy efficiency and renewable energy have been incorporated into the project design to reduce wasteful, inefficient, and unnecessary consumption of energy during construction and operation. The proposed project or project variant would be required to be built to Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND Gold Standard)[25] thus minimizing the amount of fuel, water, or energy used. Rooftops of the proposed new buildings and the adaptively reused office building would be developed with a mix of green roofs, solar photovoltaic systems, and/or roof-mounted solar hot water systems. The proposed project or project variant would also incorporate transportation demand management measures into its design such as car share parking, and bicycle parking and repair stations that would help to minimize the amount of transportation fuel consumed. Further, the project sponsor would be required to develop and/or reserve up to 8 percent of parking spaces for electric vehicles, which would also minimize the amount of transportation fuel consumed.

Based on compliance with the Title 24 conservation standards of the California Code of Regulations and the assessment of the projected demand for energy resources, operation of the proposed project or project variant would not have a measurable effect on regional energy supplies or on peak energy demand resulting in a need for additional capacity. Natural gas and electric service would be provided to meet the needs of the proposed project or project variant, as required by the CPUC, which obligates PG&E and the SFPUC to provide service to its existing and potential customers. PG&E and the SFPUC, as part of their future service projection planning, have incorporated the demand from the proposed project or project variant and other future development projects to determine the balance of regional energy supply and demand. Energy conservation and production measures in the proposed project would decrease overall energy consumption, decrease reliance on non-renewable energy sources, and increase reliance on renewable energy sources. The proposed project and project variant would also be consistent with San Francisco's greenhouse gas reduction strategy. Furthermore, construction energy consumption would be a temporary energy expenditure and would not occur in an inefficient or wasteful manner.

In summary, construction and operation of the proposed project or project variant would not use energy resources in an inefficient or wasteful manner. Therefore, the proposed project or project variant would have a less-than-significant impact on energy resources, and no mitigation measures are required.

[25] Leadership in Energy and Environmental Design (LEED) is a green building rating system that provides independent verification of a building or neighborhood's energy and environmental design features. LEED certification encourages energy and resource-efficient buildings, and savings from decreased utility costs. LEED for Neighborhood Development (LEED-ND) inspires and helps create better, more sustainable, well-connected neighborhoods. Certification is awarded at four levels, Certified, Silver, Gold, Platinum.

Construction Energy

Construction Electricity Use - Water for Dust Control	Proposed Project	Project Variant
Ground disturbance (acres per day)*	0.21	0.21
Water consumption rate per acre disturbed (gallons per acre per day)	3,020	3,020
Number of days	354	354
Total water consumption (gallons)	**226,500**	**226,500**
Energy intensity per gallon of water (kWh)	**0.005411**	**0.005411**
Total electricity use (kWh)	**1,226**	**1,226**

*Acreage factors in multiple levels of grading at the site

Construction Electricity Use - Off-road Equipment	Proposed Project				Project Variant			
Equipment*	**kW**	**Quantity**	**Total Hours**	**kWh**	**kW**	**Quantity**	**Total Hours**	**kWh**
Cutting and chopping saws	5	30	8,432	1,264,800	5	30	8,432	1,264,800
Tile cutting saws	5	25	8,432	1,054,000	5	25	8,432	1,054,000
Saw cutter	5	4	8,432	168,640	5	4	8,432	168,640
Dry wall stud impact guns	1	50	8,432	421,600	1	50	8,432	421,600
Tower cranes	179	2	8,432	3,018,656	179	2	8,432	3,018,656
Signal boards	19	2	28,824	1,072,253	19	2	28,824	1,072,253
Welders	20	2	4,240	169,600	20	2	4,240	169,600
Total electricity use (kWh)				**7,169,549**				**7,169,549**

*We received usage information for tower cranes, signal boards, and welders, but no other equipment. Data in red was estimated conservatively, and sources are cited in the energy assessment. Total hours is equal to the total days of use multiplied by work hours per day.

Construction Diesel Use - Off-road Equipment	Proposed Project	Project Variant
Total diesel equipment use (horsepower-hours)*	8,623,158	8,623,158
Gallons of diesel per horsepower-hour	0.05	0.05
Total diesel use (gallons)	**431,158**	**431,158**

* Refer to the air quality diesel equipment list spreadsheet for horsepower, quantity, and total hours for each type

Construction Fuel Use - On-road Trips		Proposed Project		Project Variant	
Vehicle Type	**Trip Type***	**Vehicle Miles Traveled**	**Miles Per Gallon**	**Vehicle Miles Traveled**	**Miles Per Gallon**
Diesel, medium heavy-duty	Vendor	65,100	8.4	65,100	8.4
Diesel, heavy heavy-duty	Vendor	96,600	5.5	96,600	5.5
Diesel, heavy heavy-duty	Hauling	684,836	5.5	684,836	5.5
Total diesel use (gallons)			**149,829**		**149,829**
Gasoline, light-duty auto	Worker	2,123,094	21.8	2,123,094	21.8
Gasoline, light-duty truck type 1	Worker	1,061,547	18.8	1,061,547	18.8
Gasoline, light-duty truck type 2	Worker	1,061,547	16.0	1,061,547	16.0
Total gasoline use (gallons)			**220,202**		**220,202**

** Assumes all vendor trucks as MHDT, all concrete trucks as HHDT, and all hauling trucks as HHDT. Worker vehicles are assumed to be 50% LDA, 25% LDT1 and 25% LDT2. In the table

Operational Energy Use - Buildings	Proposed Project	Project Variant
Natural Gas		
Heating (kBTU/year)	10,854,013	12,104,102
Electricity		
Cooling (kBTU/year)*	1,084,440	1,217,713
Additional Electricity Use (kBTU/year)	25,609,409	26,717,327
Total energy use (kBTU/year)	**37,547,862**	**40,039,142**

*1 kWh = 3.412 kBTU

Operational Peak Energy Use - Buildings	Proposed Project	Project Variant
Natural Gas		
Heating (MMBTU/hour)	3.9	4.1
Electricity		
Cooling (MMBTU/hour)*	6.3	6.6
Additional Electricity Use (MMBTU/hour)	4.1	4.4
Total peak energy use (MMBTU/hour)	**14.3**	**15.1**

*1 MMBTU = 1 million BTU

Operational Electricity Use - Water	Proposed Project		Project Variant	
Use Type	**Water Demand (gallons/year)**	**Resultant Electricity Use (kWh/year)**	**Water Demand (gallons/year)**	**Water Demand (gallons/year)**
Commercial Fixtures	422,000	2,280	229,000	1,238
Residential Fixtures	17,125,000	92,663	22,398,000	121,194
HVAC/Cooling	1,995,000	10,795	1,995,000	10,795
Landscape Irrigation	1,626,000	5,689	1,626,000	5,689
Total electricity use (kWh/year)		**111,427**		**138,916**

Operational Fuel Use - Mobile Trips		Proposed Project		Project Variant	
Vehicle Type	**Fleet Mix**	**Vehicle Miles Traveled (annual)**	**Miles Per Gallon**	**Vehicle Miles Traveled (annual)**	**Miles Per Gallon**
Diesel, medium heavy-duty (MHD)	3.3%	330,874	7.9	336,731	7.9
Diesel, heavy heavy-duty (HHD)*	0.9%	94,304	5.3	95,973	5.3
Diesel, urban buses (UBUS)	0.3%	29,702	4.1	30,228	4.1
Diesel, school buses (SBUS)	0.1%	9,519	7.2	9,687	7.2
Diesel, other buses (OBUS)	0.4%	42,537	8.1	43,290	8.1
Total diesel use (gallons)			**73,660**		**74,964**
Gasoline, light-duty auto (LDA)	60.3%	6,008,918	26.8	6,115,289	26.8
Gasoline, light-duty truck type 1 (LDAT1)	3.7%	368,044	22.7	374,559	22.7
Gasoline, light-duty truck type 2 (LDAT2)	19.3%	1,921,739	20.2	1,955,758	20.2
Gasoline, medium-duty vehicle (MDV)	9.1%	906,653	15.5	922,703	15.5
Gasoline, light-heavy duty truck type 1 (LHD1)	1.3%	128,337	9.6	130,609	9.6
Gasoline, light-heavy duty truck type 2 (LHD2)	0.5%	51,618	8.8	52,531	8.8
Gasoline, motorcycle (MCY)	0.6%	59,265	33.0	60,314	33.0
Gasoline, motor homes (MH)	0.1%	5,586	6.8	5,685	6.8
Total gasoline use (gallons)			**416,115**		**423,481**

*HHD was not separated between vendor and hauling in the operational emissions analysis. All HHD miles traveled are classified as vendor for calculation purposes

Operational Energy - Conservation Measures	
Space Type	**Identified Measures***
Residential	Reduce domestic hot water consumption Reduce equipment power density Increase residential water heater efficiency Increase lighting efficiency Increase cooling efficiency
Office	Increase lighting efficiency Increase commercial boiler efficiency Reduce equipment power density Reduce domestic hot water consumption Reduce window solar heat gain coefficient
Retail	Increase lighting efficiency Increase commercial boiler efficiency Reduce equipment power density Reduce domestic hot water consumption Integrate natural ventilation strategies
Child Care	Increase lighting efficiency Reduce equipment power density Increase commercial boiler and residential water heater efficiency Reduce window solar heat gain coefficient Integrate natural ventilation strategies
Parking	Increase lighting efficiency

*Energy conservation measures are ranked from most to least impactful for each space type, and are the

Operational Energy - Efficiency Savings	Proposed Project			Project Variant		
Energy Use	Measures Excluded (kBTU/year)	Measures Included (kBTU/year)	Estimated Savings (%)	Measures Excluded (kBTU/year)	Measures Included (kBTU/year)	Estimated Savings (%)
Natural Gas - Heating	10,854,013	10,638,137	2	12,104,102	11,947,129	1
Electricity - Cooling	1,084,440	685,450	37	1,217,713	774,496	36
Additional Electricity Use	25,609,409	16,497,970	36	26,717,327	17,264,515	25
Total	**37,547,862**	**27,821,557**	**25**	**40,039,142**	**29,986,140**	**21**

Operational Energy - Renewable Generation	Proposed Project and Project Variant					
Building	Proposed Total Solar Equipment Area (square feet)	Estimated PV Energy Output (kWh/year)	Estimated PV Energy Output (MMBTU/year)*	Estimated Solar Hot Water Energy Output (MMBTU/year)	Estimated PV Energy Output (kBTU/year)*	Estimated Solar Hot Water Energy Output (kBTU/year)
Center Building A	0	0	0	0	0	0
Center Building B	2,597	53,047	181	82	180,864	82,000
Plaza A Building	12,190	233,317	795	380	795,497	380,000
Plaza B Building	11,812	242,898	828	384	828,163	384,000
Walnut Building	19,771	409,783	1,397	635	1,397,159	635,000
Masonic Building	0	0	0	0	0	0
Euclid Building	9,036	187,224	638	289	638,342	289,000
Laurel Duplexes	6,384	115,710	395	207	394,514	207,000
Mayfair Building	3,550	73,649	251	107	251,107	107,000
Total	**65,340**	**1,315,628**	**4,486**	**2,084**	**4,485,648**	**2,084,000**

*1 kWh = 0.0034095106405145 MMBtu

Operational Energy - Renewable Generation Savings		Proposed Project			Project Variant		
Energy Use	Renewable Generation (kBTU/year)	Energy Conservation Measures Excluded (kBTU/year)	Generation Included (kBTU/year)	Estimated Savings (%)	Energy Conservation Measures Excluded (kBTU/year)	Generation Included (kBTU/year)	Estimated Savings (%)
Natural Gas	2,084,000	10,854,013	8,770,013	19%	12,104,102	10,020,102	17%
Electricity	4,485,641	26,693,849	22,208,208	17%	27,935,040	23,449,399	16%
Total	**6,569,641**	**37,547,862**	**30,978,221**	**17%**	**40,039,142**	**33,469,501**	**16%**

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CEQA Energy Calculations

Draft 2 | January 12, 2018

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This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 245654

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Document Verification

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1 Energy use estimate

Per-building energy usage, including both electricity and natural gas usage, was estimated using the proposed square footages and program-specific, Title 24 2013-compliant energy use intensities (EUIs) reported in the Pacific Gas and Electric Company Zero Net Energy Feasibility Study.[1] These EUIs include site end uses, such as outdoor lighting. Energy usage was calculated for both the proposed building and the project variant.

Table 1: Estimated energy use of proposed buildings on the project site

Energy Use (kBtu/yr)	Center Bldg. A	Center Bldg. B	Plaza A Bldg.	Plaza B Bldg.	Walnut Bldg.	Masonic Bldg.	Euclid Bldg.	Laurel Duplex	Mayfair Bldg.	Sitewide Total
Heating	**1,007,732**	**2,629,271**	**1,033,594**	**1,043,977**	**985,511**	**1,001,435**	**2,084,838**	**609,505**	**485,151**	**10,854,013**
Residential	1,007,732	2,629,271	745,112	813,484	0	1,001,435	1,997,610	609,505	485,151	9,928,299
Office	0	0	0	0	371,012	0	0	0	0	371,012
Retail	0	0	288,482	230,492	494,924	0	87,228	0	0	1,101,126
Child Care	0	0	0	0	92,576	0	0	0	0	92,576
Parking	0	0	0	0	0	0	0	0	0	0
Cooling	**106,802**	**278,658**	**87,973**	**93,410**	**81,013**	**106,135**	**214,435**	**64,597**	**51,418**	**1,084,440**
Residential	106,802	278,658	78,969	86,215	0	106,135	211,712	64,597	51,418	984,507
Office	0	0	0	0	46,917	0	0	0	0	46,917
Retail	0	0	9,004	7,194	15,448	0	2,723	0	0	34,368
Child Care	0	0	0	0	18,648	0	0	0	0	18,648
Parking	0	0	0	0	0	0	0	0	0	0
Electricity	**1,381,540**	**3,965,525**	**3,116,795**	**2,986,061**	**6,246,774**	**2,047,392**	**3,980,797**	**924,212**	**960,314**	**25,609,409**
Residential	1,381,540	3,604,573	1,021,504	1,115,238	0	1,372,907	2,738,603	835,595	1,201,681	12,735,073
Office	0	0	0	0	1,042,043	0	0	0	0	1,042,043
Retail	0	0	885,432	707,446	1,519,061	0	267,728	0	0	3,379,668
Child Care	0	0	0	0	416,146	0	0	0	0	416,146
Parking	0	360,952	1,209,859	1,163,376	3,269,524	674,484	974,466	88,617	295,202	8,036,479
Total	**2,496,074**	**6,873,454**	**4,238,361**	**4,123,447**	**7,286,298**	**3,154,962**	**6,280,070**	**1,598,314**	**1,496,883**	**37,547,861**
Residential	2,496,074	6,512,502	1,845,585	2,014,938	0	2,480,477	4,947,926	1,509,697	1,201,681	23,008,879
Office	0	0	0	0	1,459,971	0	0	0	0	1,459,971
Retail	0	0	1,182,918	945,133	2,029,432	0	357,679	0	0	4,515,162
Child Care	0	0	0	0	527,371	0	0	0	0	527,371
Parking	0	360,952	1,209,859	1,163,376	3,269,524	674,484	974,466	88,617	295,202	8,036,479
Estimated building energy uses include site end uses, such as outdoor lighting.										

[1] Pacific Gas and Electric Co. (2012). *The Technical Feasibility of Zero Net Energy Buildings in California.* Retrieved from: http://www.energydataweb.com/cpucfiles/pdadocs/904/california_zne_technical_feasibility_report_final.pdf.

Table 2: Estimated energy use of proposed buildings on the project site under the project variant

Energy Use (kBtu/yr)	Center Bldg. A	Center Bldg. B	Plaza A Bldg.	Plaza B Bldg.	Walnut Bldg.	Masonic Bldg.	Euclid Bldg.	Laurel Duplex	Mayfair Bldg.	Sitewide Totals
Heating	**1,007,732**	**2,629,271**	**1,033,594**	**1,043,977**	**2,208,601**	**1,001,435**	**2,084,838**	**609,505**	**485,151**	**12,104,102**
Residential	1,007,732	2,629,271	745,112	813,484	1,733,751	1,001,435	1,997,610	609,505	485,151	11,023,050
Retail	0	0	288,482	230,492	382,526	0	87,228	0	0	988,728
Child Care	0	0	0	0	92,324	0	0	0	0	92,324
Parking	0	0	0	0	0	0	0	0	0	0
Cooling	**106,802**	**278,658**	**87,973**	**93,410**	**214,285**	**106,135**	**214,435**	**64,597**	**51,418**	**1,217,713**
Residential	106,802	278,658	78,969	86,215	183,748	106,135	211,712	64,597	51,418	1,168,255
Retail	0	0	9,004	7,194	11,939	0	2,723	0	0	30,860
Child Care	0	0	0	0	18,598	0	0	0	0	18,598
Parking	0	0	0	0	0	0	0	0	0	0
Electricity	**1,381,540**	**3,965,525**	**3,116,795**	**2,986,061**	**7,394,692**	**2,047,392**	**3,980,797**	**924,212**	**960,314**	**26,717,327**
Residential	1,381,540	3,604,573	1,021,504	1,115,238	2,376,869	1,372,907	2,738,603	835,595	1,201,681	15,111,942
Retail	0	0	885,432	707,446	1,174,081	0	267,728	0	0	3,034,688
Child Care	0	0	0	0	415,013	0	0	0	0	415,013
Parking	0	360,952	1,209,859	1,163,376	3,388,729	674,484	974,466	88,617	295,202	8,155,684
Total	**2,496,074**	**6,873,454**	**4,238,361**	**4,123,447**	**9,777,578**	**3,154,962**	**6,280,070**	**1,598,314**	**1,496,883**	**40,039,142**
Residential	2,496,074	6,512,502	1,845,585	2,014,938	4,294,368	2,480,477	4,947,926	1,509,697	1,201,681	27,303,247
Retail	0	0	1,182,918	945,133	1,568,547	0	357,679	0	0	525,935
Child Care	0	0	0	0	525,395	0	0	0	0	525,935
Parking	0	360,952	1,209,859	1,163,376	3,388,729	674,484	974,466	88,617	295,202	8,155,684
Estimated building energy uses include site end uses, such as outdoor lighting.										

2 Peak energy demand estimate

Peak energy demand was estimated using the proposed square footages and program- and climate-specific ASHRAE 90.1-2013 compliant DOE reference building energy models. Peak energy use was estimated for both the proposed project and the project variant.

Table 3: Estimated peak energy demand

Peak load (MMBtu/h)	Proposed project	Project variant
Heating	3.9	4.1
Cooling	6.3	6.6
Electric	4.1	4.4
Total	**14.3**	**15.1**

3 Energy use from water

Project water demand was estimated from square footages and projected occupancy, and code-compliant plumbing fixture types and irrigation levels using the SFPUC's preferred tool for project water use estimation, and consistent with the Water Supply Assessment for this project. Indoor and outdoor electricity intensity factors were obtained from the 2006 CEC report, "Refining Estimates of Water-Related Energy Use in California"[2]. These factors are reported in the units of kWh per million gallons (MG) of water used and specific to northern California. These intensity factors represent the electricity required to: (1) supply and convey water from source to site; (2) treat the water to usable standards; (3) distribute the water to individual users. The indoor intensity factor includes the electricity required to process resultant wastewater.

Table 4: Estimated energy use from water

Use Type	Water demand (gal/yr)	Resultant electricity use (kWh/yr)
Commercial fixtures	422,000	2,280
Residential fixtures	17,125,000	92,663
HVAC/Cooling	1,995,000	10,795
Landscape Irrigation	1,626,000	5,689
Total	**21,167,000**	**111,430**

Table 5: Estimated energy use from water under project variant

Use Type	Water demand (gal/yr)	Resultant electricity use (kWh/yr)
Commercial fixtures	229,000	1,238
Residential fixtures	22,398,000	121,194
HVAC/Cooling	1,995,000	10,795
Landscape Irrigation	1,626,000	5,689

[2] "Refining Estimates of Water-Related Energy Use in California." California Energy Commission (CEC), 2006. CEC-500-2006-118. Retrieved from www.energy.ca.gov on 9 January, 2018.

Total	**26,247,000**	**138,915**

4 Waste volume estimates

Residential waste volume was estimated based on the project unit counts, while commercial waste volume was estimated based on program square footages. Program-specific waste generation and diversion rates were then applied to estimate waste volumes. The environmental impacts associated with the project waste generation was estimated using factors consistent with the CalEEMod methodology.[3]

Table 6: Waste volume estimates - Proposed project

Space type	Waste generated (cu. yds./day)	Total CO_2 (MT/yr)	CH_4 (MT/yr)	N_2O (MT/yr)	CO_2e (MT/yr)
Residential	18.3	5.2	0.3	0	12.9
Commercial	34	9.7	0.6	0	23.9
Total	**52.5**	**14.9**	**0.9**	**0**	**36.8**

Table 7: Waste volume estimates – Project variant

Space type	Waste generated (cu. yds./day)	Total CO2 (MT/yr)	CH4 (MT/yr)	N2O (MT/yr)	CO2e (MT/yr)
Residential	19.8	5.6	0.3	0	13.9
Commercial	25.5	7.2	0.4	0	17.9
Total	**45.3**	**12.8**	**0.7**	**0**	**31.8**

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[3] California Air Pollution Control Officers Association (2013). *Appendix A: Calculation Details for CalEEMod.* Retrieved from: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf.

5 Projected renewable energy output

The projected energy output was estimated for both rooftop solar photovoltaics and rooftop solar hot water based on the proposed design. PV Watts[4] was used to calculate energy production from rooftop solar photovoltaics, assuming SUNPOWER panels[5]. The T*SOL[6] tool was used to calculate the solar hot water energy production from rooftop solar tubes, assuming Ritter tubes.[7]

Table 8: Projected renewable energy production based on proposed design

Building	Proposed total solar equipment area (ft^2)	Estimated PV energy output (kWh/yr)	Estimated solar hot water energy output (MMBtu/yr)
Center Bldg. A	0	0	0
Center Bldg. B	2,597	53,047	82
Plaza A Bldg.	12,190	233,317	380
Plaza B Bldg.	11,812	242,898	384
Walnut Bldg.	19,771	409,783	635
Masonic Bldg.	0	0	0
Euclid Bldg.	9,036	187,224	289
Laurel Dup.	6,384	115,710	207
Mayfair Bldg.	3,550	73,649	107
Total	65,340	1,315,626	2,084
The proposed solar area is roughly 35% of total roof area, with 30% of total roof area photovoltaic and 5% of total roof area solar hot water. Potential renewable energy production under the project variant is the same as in the proposed project.			

The roof area allocated to solar equipment is consistent between the proposed project and the project variant; therefore, the estimated renewable energy production in the proposed case remains the same under the variant.

[4] National Renewable Energy Lab. PVWatts v5.3.8. pvwatts.nrel.org.
[5] SUNPOWER: SPR-E20-435-COM SPR-E19-410-COM. Efficiency: 19%. Module area: 21.5 ft^2.
[6] Valentin Software. T*SOL Dynamic Thermal Simulation Software v5.5. www.valentin-software.com.
[7] Ritter CPC 14 XL (Gross surface area: 28.2 ft^2)

6 Energy savings estimates from energy efficiency

Beginning with the projected energy use estimated above, the Snapshot Efficiency tool was used to assess the potential savings from combinations of twenty different energy conservation measures (ECMs). The top five most impactful ECMs were identified for each space type, as well as the resulting percent energy saved. The percent savings were applied to each of the energy consumption values reported elsewhere in this report.

Table 9: Identified energy conservation measures by space type

Use type	Identified energy conservation measures
Residential	Reduce Domestic Hot Water (DHW) consumption. Reduce equipment power density. Increase residential water heater efficiency. Increase lighting efficacy. Increase cooling efficiency.
Office	Increase lighting efficacy. Increase commercial boiler efficiency. Reduce equipment power density. Reduce DHW consumption. Reduce window SHGC.
Retail	Increase lighting efficacy. Increase commercial boiler efficiency. Reduce equipment power density. Reduce DHW consumption. Integrate natural ventilation strategies.
Child Care	Increase lighting efficacy. Reduce equipment power density. Increase commercial boiler and residential water heater efficiency. Reduce window SHGC. Integrate natural ventilation strategies.
Parking	Increase lighting efficacy.
ECMs are ranked from most to least impactful for each space type.	

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Table 10: Total estimated project site annual energy use

Energy Conservation Measures Excluded		Energy Conservation Measures Included	
Energy Use	**Site Total (kBtu/yr)**	**Site Total (kBtu/yr)**	**Estimated savings (%)**
Heating	**10,854,013**	**10,638,137**	**2**
Residential	9,928,299	9,239,299	0
Office	371,012	330,377	11
Retail	1,101,126	922,059	16
Child Care	92,576	96,402	-4
Parking	0	0	0
Cooling	**1,084,440**	**685,450**	**37**
Residential	984,507	619,287	37
Office	46,917	23,458	50
Retail	34,368	29,829	13
Child Care	18,648	12,876	31
Parking	0	0	0
Electricity	**25,609,409**	**16,497,970**	**36**
Residential	12,735,073	8,349,612	34
Office	1,042,043	684,671	46
Retail	3,379,668	1,823,699	36
Child Care	416,146	265,273	34
Parking	8,036,479	5,374,715	33
Total	**37,547,861**	**27,821,558**	**26**
Residential	23,008,879	18,258,197	21
Office	1,459,971	1,038,506	29
Retail	4,515,162	2,775,588	39
Child Care	527,371	374,551	29
Parking	8,036,479	5,374,715	33

Table 11: Total estimated project site energy annual use under Project variant

Energy Conservation Measures Excluded		ECMs Included	
Energy Use	**Site Total (kBtu/yr)**	**Site Total (kBtu/yr)**	**Estimated savings (%)**
Heating	**12,104,102**	**11,947,129**	**1**
Residential	11,023,050	11,023,050	0
Retail	1,101,126	827,940	16
Child Care	92,324	96,139	-4
Parking	0	0	0
Cooling	**1,217,713**	**774,496**	**36**
Residential	1,168,255	734,870	37
Retail	30,860	26,784	13
Child Care	18,598	12,841	31
Parking	0	0	0
Electricity	**26,717,327**	**17,264,515**	**35**
Residential	15,111,942	9,907,980	34
Retail	3,034,688	1,637,545	46
Child Care	415,013	264,551	34
Parking	8,155,684	5,454,439	33
Total	**40,039,142**	**29,986,139**	**25**
Residential	27,303,247	21,665,900	21
Retail	4,054,276	2,492,269	39
Child Care	525,935	373,532	29
Parking	8,155,684	5,454,439	33

AGENDA ITEM
Public Utilities Commission
City and County of San Francisco

DEPARTMENT Water Enterprise AGENDA NO. 11

MEETING DATE June 13, 2017

Approve Water Supply Assessment: Regular Calendar
Project Manager: Paula Kehoe

Approve Water Supply Assessment for the 3333 California Street Project

Summary of Proposed Commission Action:	**Approve** the Water Supply Assessment (WSA) for the proposed 3333 California Street Project, pursuant to the State of California Water Code Section 10910 *et seq.* and California Environmental Quality Act (CEQA) Section 21151.9 and CEQA Guidelines Section 15155.
Background:	Water Code Sections 10910-10915 provide a nexus between the regional land use planning process and the environmental review process. The law also reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. The core of this law is the requirement for a public water system to prepare a water supply assessment (WSA) of whether available water supplies are sufficient to serve the demand generated by projects of a specified size ("water demand projects"), as well as the reasonably foreseeable cumulative demand in the region over the next 20 years under a range of hydrologic conditions. The WSA is required within 90 days of the time the public water system receives a request for such assessment from the lead agency preparing an environmental impact report (EIR) or negative declaration under CEQA. The Planning Department, which carries out the City's lead agency responsibilities under CEQA, is preparing an EIR for the proposed project and has identified the proposed project as a water demand project. The content of a WSA is specified by the Water Code and includes identification of any existing water supply entitlements or contracts, and detailed information about groundwater supplies. It assesses the adequacy of water supplies to serve the proposed project and cumulative demand. The WSA must be completed by the public water supplier that would serve the project and be approved by its governing body at a public meeting. Approval of a WSA is not approval of the development

APPROVAL: _____

COMMISSION SECRETARY Donna Hood

	project for which the WSA is prepared. A WSA is an informational document required to be prepared for use in the City's environmental review of a project under CEQA. The attached WSA prepared by San Francisco Public Utilities Commission (SFPUC) staff analyzes the sufficiency of long-term water supplies to serve the proposed project and cumulative development and concludes that there are adequate short-term and long-term water supplies to provide water service to the Project in compliance with the State Water Code requirements.
Result of Inaction:	A delay in approving this agenda item will result in the inability of the San Francisco Planning Department to complete the environmental review for the proposed 3333 California Street Project. Under CEQA Guidelines Section 15155, the SFPUC may, within 90 days of the request for the WSA from Planning, request a reasonable extension of time to complete the WSA.
Description of Action:	Approve the WSA for the proposed 3333 California Street Project**,** pursuant to the State of California Water Code 10910.
Environmental Review:	Approval of the WSA is not a project under CEQA as the WSA is an informational document prepared for the CEQA process and is not an approval of the Project.
Recommendation:	SFPUC staff recommends that the Commission adopt the resolution.
Attachment:	1. Water Supply Assessment for the 3333 California Street Project

PUBLIC UTILITIES COMMISSION

City and County of San Francisco

RESOLUTION NO. _____

WHEREAS, Under the California Environmental Quality Act (CEQA) and State Water Code (Section 10910(g)(1)), the San Francisco Public Utilities Commission (SFPUC) is required to prepare and approve a Water Supply Assessment (WSA) for the 3333 California Street Project's cumulative water demands; and

WHEREAS, A WSA is an informational document that assesses the adequacy of water supplies to serve a project and is required to be prepared as part of the CEQA environmental review process; and

WHEREAS, As an informational document, approval of the WSA is not a project under CEQA and is not an approval of the 3333 California Street Project; and

WHEREAS, A WSA must be approved at a public meeting by the governing body of the public water supplier that would serve the project; and

WHEREAS, The SFPUC staff prepared a WSA for the 3333 California Street Project, which concluded that the SFPUC has adequate water supplies to meet the Project's water demands through 2040; now, therefore, be it

RESOLVED, This Commission approves the Water Supply Assessment for the 3333 California Street Project, pursuant to the State of California Water Code 10910(g).

I hereby certify that the foregoing resolution was adopted by the Public Utilities Commission at its meeting of June 13, 2017.

_____

Secretary, Public Utilities Commission

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

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May 17, 2017

TO: Commissioner Anson Moran, President
Commissioner Ike Kwon, Vice President
Commissioner Ann Moller Caen
Commissioner Francesca Vietor
Commissioner Vince Courtney

THROUGH: Harlan L. Kelly, Jr., General Manager

FROM: Steven R. Ritchie, Assistant General Manager, Water

RE: Water Supply Assessment for the 3333 California Street Project

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1.0 Summary

1.1 Introduction

Under the Water Supply Assessment law (Sections 10910 through 10915 of the California Water Code), urban water suppliers like the San Francisco Public Utilities Commission (SFPUC) must furnish a Water Supply Assessment (WSA) to the city or county that has jurisdiction to approve the environmental documentation for certain qualifying projects (as defined in Water Code Section 10912 (a)) subject to the California Environmental Quality Act (CEQA). The WSA process typically relies on information contained in a water supplier's Urban Water Management Plan (UWMP), and involves answering specific questions related to the estimated water demand of the proposed project. This memo serves as the WSA for the proposed 3333 California Street Project ("proposed project"), for use in the preparation of an environmental impact report by the City and County of San Francisco Planning Department (case no. 2015.014028ENV, San Francisco Planning Department).

1.1.1 2015 Urban Water Management Plan

The SFPUC's most current UWMP is the UWMP update for 2015, which was adopted in June 2016. The water demand projections in the UWMP incorporated 2012 Land Use Allocation (LUA 2012) housing and employment growth projections from the San Francisco Planning Department.

The WSA for a qualifying project within the SFPUC's retail service area may use information from the UWMP. Therefore, ***the 2015 UWMP is incorporated via references throughout this WSA shown in bold, italicized text.*** The UWMP may be accessed at www.sfwater.org/uwmp.

1.1.2 Basis for Requiring a WSA for the Proposed Project

The proposed project has not been the subject of a previous WSA, nor has it been part of a larger project for which a WSA was completed. The proposed project qualifies for preparation of a WSA under Water Code Section 10912(a) because it is a mixed-use residential development that includes more than 500 dwelling units. The proposed project is characterized further in Section 1.2.

Edwin M. Lee
Mayor

Anson Moran
President

Ike Kwon
Vice President

Ann Moller Caen
Commissioner

Francesca Vietor
Commissioner

Vince Courtney
Commissioner

Harlan L. Kelly, Jr.
General Manager

1.1.3 Conclusion of this WSA

In this WSA, the SFPUC concludes that there are adequate water supplies to serve the proposed project and cumulative retail water demands during normal years, single dry years, and multiple dry years over a 20-year planning horizon from 2020 through 2040. Additional information on supply sufficiency is provided in Section 4.2, Findings.

1.2 Proposed Project Description

The Prado Group, Inc. and SKS Partners, LLC are proposing to redevelop the 10.25-acre parcel at 3333 California Street in the northwest portion of San Francisco from an office and parking use to a mix of residential, retail, commercial office, child care, and parking uses. It is currently used as the University of California San Francisco (UCSF) Laurel Heights Campus and is developed with two structures, three surface parking lots, two circular garage ramp structures, internal roadways and landscaping or landscaped open space.

Overall, the proposed project would entail the removal of approximately 376,000 gross square feet (gsf) of office uses with approximately 49,999 gsf relocated to the proposed Walnut Building. The proposed project would include 558 dwelling units within 818,247 gsf of residential floor area. The proposed project would provide 49,999 gsf of commercial office floor area; 54,967 gsf of retail floor area; and a 14,620-gsf child care center use. Up to 898 vehicle parking spaces, including ten car share spaces, would be provided in multiple garages with up to three subterranean levels totaling approximately 435,767 gsf. Additionally, the proposed project would develop approximately 53 percent of the overall lot area (approximately 236,900 square feet – excluding green roofs) with a combination of public and private open spaces including: Euclid Park, Cypress Square, Mayfair Walk, and Walnut Walk.

The project sponsor is considering a variant to the proposed project, referred to as the Mixed-Use Senior Housing Variant. This variant would allow for the development of 744 dwelling units on the project site; an increase of 186 dwelling units over the number in the proposed project. The approximately 49,999 gsf of commercial office space in the proposed Walnut Building would be changed to a residential use. Overall, approximately 1,473,001 gsf of new and rehabilitated space, comprising approximately 972,167 gsf of residential floor area; approximately 47,407 gsf of ground floor retail spaces; and approximately 14,620 gsf of childcare center space would be developed under the variant. Up to 871 vehicle parking spaces, including ten car share spaces would be provided in multiple garages with up to three subterranean levels totaling approximately 438,807 gsf. Approximately 236,900 square feet of publicly accessible and private open space would be provided throughout the site. Under this variant, the footprints of the other proposed new buildings would not change.

Construction of the proposed project, or its variant, would be phased. The preliminary construction plan would include four overlapping construction phases and is subject to change. Project construction would commence in 2020 and would occur within a maximum development period of 10 years.

Further details on both the proposed project and the Mixed-Use Senior Housing Variant are provided in Attachment B. However, for the purpose of the WSA, only the Mixed-Use Senior Housing Variant is assessed for water supply as it would result in the most conservative water demand estimate and would encompass the demands estimated for the proposed project.

2.0 Water Supply

This section reviews San Francisco's existing and planned water supplies.

2.1 Regional Water System

See ***Section 3.1 of the UWMP*** for descriptions of the Regional Water System (RWS) and ***Section 6.1 of the UWMP*** for water rights held by City and County of San Francisco and the SFPUC Water System Improvement Program (WSIP).

2.2 Existing Retail Supplies

Retail water supplies from the RWS are described in ***Section 6.1 of the UWMP***.

Local groundwater supplies, including the Westside Groundwater Basin, Central Groundwater Sub Basin, and Sunol Filter Gallery Subsurface Diversions, are described in ***Section 6.2.1 of the UWMP***.

Local recycled water supplies, including the Harding Park Recycled Water Project and Pacifica Recycled Water Project, are described in ***Section 6.2.1 of the UWMP***.

2.3 Planned Retail Water Supply Sources

The San Francisco Groundwater Supply Project is described in ***Section 6.2.2 of the UWMP***.

The proposed Westside and Eastside Recycled Water Projects, as well as non-potable water supplies associated with onsite water systems implemented in compliance with San Francisco's Non-potable Water Ordinance (Health Code Chapter 12C), are also described in ***Section 6.2.2 of the UWMP***.

2.4 Summary of Current and Future Retail Water Supplies

A breakdown of water supply sources for meeting SFPUC retail water demand through 2040 in normal years is provided in ***Section 6.2.5 of the UWMP***.

2.5 Dry-Year Water Supplies

A description of dry-year supplies developed under WSIP is provided in ***Section 7.2 of the UWMP***. Other water supply reliability projects and efforts that are currently underway or completed are described in ***Section 7.4 of the UWMP***. A breakdown of water supply sources for meeting SFPUC retail water demand through 2040 in multiple dry years are provided in ***Section 7.5 of the UWMP***. For a single dry year, the retail RWS allocation and, thus, the breakdown of water supply sources would be the same as those in a normal year.

3.0 Water Demand

This section reviews the climatic and demographic factors that may affect San Francisco's water use, projected retail water demands, and the demand associated with the proposed project.

3.1 Climate

San Francisco has a Mediterranean climate. Summers are cool and winters are mild with infrequent rainfall. Temperatures in the San Francisco area average 57 degrees Fahrenheit annually, ranging from the mid-40s in winter to the upper 60s in late summer. Strong onshore flow of wind in summer keeps the air cool, generating fog through September. The warmest temperatures generally occur in September and October. Rainfall in the San Francisco area averages about 22 inches per year and is generally confined to the "wet" season from late October to early May. Except for

occasional light drizzles from thick marine stratus clouds, summers are nearly completely dry. A summary of the temperature and rainfall data for the City of San Francisco is included in Table 1.

Table 1: San Francisco Climate Summary

Month	Average Maximum Temperature (°F)	Average Minimum Temperature (°F)	Average Monthly Rainfall (inches)
January	58.0	45.7	4.36
February	60.3	47.3	4.41
March	61.4	48.1	2.98
April	62.3	49.1	1.38
May	63.2	50.9	0.68
June	64.8	52.7	0.18
July	65.6	54.3	0.02
August	66.6	55.3	0.06
September	68.1	55.0	0.19
October	67.8	53.3	1.04
November	61.2	48.1	2.85
December	58.3	45.9	4.33
Annual Average	**63.3**	**50.6**	**22.45**

Source: Western Regional Climate Center (www.wrcc.dri.edu), 1981-2010 data from two San Francisco monitoring stations (Mission Dolores/SF#047772 and Richmond/SF#047767).

3.2 Projected Growth

Projections of population growth in the retail service area through 2040 are presented in ***Section 3.2.2 of the UWMP***. The corresponding LUA 2012 projections for housing and employment in San Francisco, which are incorporated into the projected retail water demands, are provided in ***Appendix E of the UWMP***.

3.3 Projected Retail Water Demands

For the 2015 UWMP, the SFPUC developed a new set of models that incorporate socioeconomic factors to project retail demands through 2040. These models incorporate the latest housing and employment projections from LUA 2012. ***See Section 4.1 of the UWMP*** for tabulated retail water demand projections through 2040 and a description of the model methodology.

3.4 Proposed Project Water Demand

Prado Group, Inc. and SKS Partners, LLC provided a memo describing the methods and assumptions used to estimate the water demand of the proposed project, along with the resulting demand (Attachment B). The SFPUC reviewed the memo to ensure that the methodology is appropriate for the types of proposed water uses, the assumptions are valid and thoroughly documented along with verifiable data sources, and a professional standard of care was used. The SFPUC concluded that the demand estimates are reasonable. Water demand associated with the proposed project over the 20-year planning horizon is shown in the following table.

Table 2: Water Demand Based on Project Phasing

Demand of Proposed Project (mgd)	2020	2025	2030	2035	2040
Potable Demand	–	0.050	0.053	0.053	0.053
Non-potable Demand	–	0.019	0.020	0.020	0.020
Total Demand	–	0.069	0.073	0.073	0.073

mgd = million gallons per day

Notes:
Construction would occur over four overlapping phases commencing in 2020 (subject to change). Phases 1 is estimated to be completed in 2022, Phase 2 in 2023, Phase 3 in 2025, and Phase 4 in 2027.

The estimates above reflect the Mixed-Use Senior Housing Variant. Water demand estimates for the proposed project are slightly lower and are provided in Attachment B.

The San Francisco Planning Department has determined that the proposed project is encompassed within the projections presented in LUA 2012 as indicated in the letter from the Planning Department to the SFPUC (Attachment A). Therefore, the demand of the proposed project is also encompassed within the San Francisco retail water demands that are presented in ***Section 4.1 of the UWMP***, which considers retail water demand based on the LUA 2012 projections. The following table shows the demand of the proposed project relative to total retail demand.

Table 3: Proposed Project Demand Relative to Total Retail Demand

	2020	2025	2030	2035	2040
Total Retail Demand (mgd)[1]	77.5	79.0	82.3	85.9	89.9
Total Demand of Proposed Project (mgd)	–	0.069	0.073	0.073	0.073
Portion of Total Retail Demand[2]	–	0.09%	0.09%	0.08%	0.08%

Notes:
1. Retail water demands per ***Table 4-1 of the UWMP***.
2. The proposed project is accounted for in the LUA 2012 projections and subsequent retail water demand projections.

4.0 Conclusion

4.1 Comparison of Projected Supply and Demand

Section 7.5 of the UWMP compares the SFPUC's retail water supplies and demands through 2040 during normal year, single dry-, and multiple dry-year periods. See Table 4, below, which is adapted from the UWMP (Table 7-4). As explained previously in Section 3.4, water demands associated with the proposed project are already captured in the retail demand projections presented in the UWMP. The proposed project is expected to represent up to 0.09 percent of the total retail water demand.

Table 4: Projected Supply and Demand Comparison (mgd)

		Normal Year	Single Dry Year[1]	Multiple Dry Years		
				Year 1[1]	Year 2[2]	Year 3[2]
2020	Total Retail Demand[3]	77.5	77.5	77.5	77.5	77.5
	Total Retail Supply[4]	77.5	77.5	77.5	77.5	77.5
	Surplus/(Deficit)	0	0	0	0	0
2025	Total Retail Demand[3]	79.0	79.0	79.0	79.0	79.0
	Total Retail Supply[4]	79.0	79.0	79.0	79.0	79.0
	Surplus/(Deficit)	0	0	0	0	0
2030	Total Retail Demand[3]	82.3	82.3	82.3	82.3	82.3
	Total Retail Supply[4]	82.3	82.3	82.3	82.3	82.3
	Surplus/(Deficit)	0	0	0	0	0
2035	Total Retail Demand[3]	85.9	85.9	85.9	85.9	85.9
	Total Retail Supply[4]	85.9	85.9	85.9	85.9	85.9
	Surplus/(Deficit)	0	0	0	0	0
2040	Total Retail Demand[3]	89.9	89.9	89.9	89.9	89.9
	Total Retail Supply[4]	89.9	89.9	89.9	88.8	88.8
	Surplus/(Deficit)	0	0	0	(1.1)	(1.1)

Notes:
1. During a single dry year and multiple dry year 1, a system-wide shortage of 10% is in effect. Under the Water Shortage Allocation Plan (WSAP), the retail supply allocation at this stage of shortage is 36.0% of available RWS supply, or 85.9 mgd. However, due to the Phased WSIP Variant, only 81 mgd of RWS supply can be delivered. RWS supply is capped at this amount.
2. During multiple dry years 2 and 3, a system-wide shortage of 20% is in effect. Under the WSAP, the retail supply allocation at this stage of shortage is 37.5% of available RWS supply, or 79.5 mgd. RWS supply is capped at this amount.
3. Total retail demands correspond to those in ***Table 4-1 of the UWMP***, and reflect both passive and active conservation, as well as water loss.
4. Total retail supplies correspond to those in ***Table 6-7 of the UWMP***. Procedures for RWS allocations and the WSAP are described in ***Section 8.3 of the UWMP***. Groundwater and recycled water are assumed to be used before RWS supplies to meet retail demand. However, if groundwater and recycled water supplies are not available, up to 81 mgd, or the corresponding capped amount in dry years, of RWS supply could be used.

The LUA 2012 projections result in a retail demand in 2035 of 85.9 mgd, which represents a 5.0 mgd, or 6 percent, increase over the 2035 demand projected in the 2010 UWMP. The ability to meet the demand of the retail customers is in large part due to development of 10 mgd of local WSIP supplies, including conservation, groundwater, and recycled water. These supplies are anticipated to be fully implemented over the next 10 to 15 years.

If planned future water supply projects (i.e., San Francisco Groundwater Supply Project, Westside Recycled Water Project, Eastside Recycled Water Project, and onsite non-potable supplies) are not implemented, normal-year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during normal years, the SFPUC may import additional water from the RWS beyond the retail allocation of 81 mgd, with mitigation implemented by the SFPUC and potential environmental surcharges if RWS deliveries exceed the 265 mgd interim supply limitation.

If dry-year supply projects (i.e., Calaveras Dam Replacement Project, Lower Crystal Springs Dam Improvements Project, Alameda Creek Recapture, Regional

Groundwater Storage and Recovery Project, and water transfers) are not implemented, existing dry year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during dry years, the SFPUC may reduce system deliveries and impose customer rationing.

The SFPUC remains committed to meeting the level of service goals and objectives outlined under WSIP. In addition, the SFPUC continues to explore other future supplies, including:

- Development of additional conservation and recycling.
- Development of additional groundwater supplies.
- Securing of additional water transfer volumes.
- Increasing Tuolumne River supply.

4.2 Findings

Regarding the availability of water supplies to serve the proposed project beginning in 2022, the SFPUC finds, based on the entire record before it, as follows:

- During normal years, single dry years, and multiple dry years, the SFPUC has sufficient water supplies to serve the proposed project.
- With the addition of planned retail supplies, the SFPUC has sufficient water supplies available to serve its retail customers, including the demands of the proposed project, existing customers, and foreseeable future development.

Approval of this WSA by the Commission is not equivalent to approval of the development project for which the WSA is prepared. A WSA is an informational document required to be prepared for use in the City's environmental review of a project under CEQA. It assesses the adequacy of water supplies to serve the proposed project and cumulative demand.

Furthermore, this WSA is not a "will serve" letter and does not verify the adequacy of existing distribution system capacity to serve the proposed project. A "will serve" letter and/or hydraulic analysis must be requested separately from the SFPUC City Distribution Division to verify hydraulic capacity.

If there are any questions or concerns, please contact Steve Ritchie at (415) 934-5736 or SRitchie@sfwater.org.

Attachment A –

Communications from San Francisco Planning Department

SAN FRANCISCO
PLANNING DEPARTMENT

MEMO

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DATE: June 13, 2013

TO: SF Planning EP Planners & SFPUC Planners

FROM: Scott T. Edmondson, AICP; Aksel Olsen

RE: Project Types Represented in the Land Use Allocation

This Memorandum explains the Planning Department's Land Use Allocation (LUA) and the types of projects included in the LUA. The 2012 LUA is the most recent update and uses the Association of Bay Area Governments' (ABAG) May 2012 Jobs-Housing Connection Scenario. As this memorandum explains, the Planning Department expects that the LUA will encompass the vast majority of development proposals that project sponsors will present to the Planning Department. This memorandum also identifies possible unusual circumstances under which EP Planners and the SF PUC Planners may want to consult further with the Planning Department's Information and Analysis Group to determine whether a project is encompassed within the LUA.

ABAG's Projections of San Francisco's Economic Growth and the LUA

The LUA takes ABAG's 30-year projections of citywide household and job growth and allocates them to smaller geographic units, in this case, the traffic analysis zones of the SF Transportation Authority's Countywide Transportation Model. Thus, the LUA does not project growth but simply allocates ABAG's growth projections to subarea locations within the city. The current 2012 LUA uses ABAG's Jobs-Housing Connection Scenario projections for San Francisco and covers the period from 2010 to 2040; these projections were released in May 2012 and are represented in five-year increments.

ABAG derives its demographic and economic growth projections from assumptions about long-term demographic and economic growth.[1] ABAG maintains its own set of regional models and develops each forecast with its in-house experts and private economic consultants.[2] The forecasting is informed by the best information and assumptions available through federal and State agencies, such as the State Department of Finance, and private sources. However, ABAG develops its forecast based on local knowledge from over 50 years of forecasting and develops the forecast to reflect local conditions in contrast to more general forecasting assumptions of State or federal sources. ABAG's estimate of total citywide growth for the 30-year period is expected to best represent actual growth at the end of the 30-year period. However, projected growth for any portion of the projection period, such as growth in a one-year or a five-year period, would be expected to vary from actual growth in such periods. Within the 30-year growth projection period, higher than average growth periods could be followed by lower than average growth periods such that growth over the period would ultimately equal the projected 30-year

total. All projection methodologies make assumptions based on the best available information at the time. To minimize the effects of imprecision intrinsic to any projections methodology when used in for planning decisions, ABAG follows professional best practices and updates its projections every two years. Accordingly, the Planning Department updates its LUA every two years. The planning practice of frequently updating projections and plans allows the incorporation of new information over time to provide for the most up-to-date projections.

The SFPUC updates its Urban Water Management Plan (UWMP) every five years. The UWMP typically relies on LUA projections or similar information. But, because the LUA is updated every two years, the SFPUC may want to review the LUA issued within SFPUC's 5-year UWMP cycle; and if it varies in a significant way from the SFPUC's projections used in its UWMP, discuss with Planning whether it should make any changes in its own water supply needs assessment during an UWMP cycle.

Types of Projects Included in the LUA

The LUA translates ABAG's projected household and job growth into total expected development in San Francisco over a 30-year period. The LUA translates ABAG's household growth into residential housing units and ABAG's job growth into commercial space.[3] Thus, the LUA projections of housing units and commercial space include all project types expected from San Francisco growth, such as housing, office, retail, production-distribution-repair (PDR), visitor, and cultural-institutional-educational (CIE). The LUA does not exclude any project type or potential growth. As such, the LUA and the ABAG economic projections upon which it is based contain the best estimates available of reasonably foreseeable growth and development in San Francisco over a 30-year period.

Unusual Circumstances

The LUA can be considered to include all reasonably expected growth and development and it is frequently updated to correct for expected variations. Nevertheless, there are possible unusual circumstances under which the EP Planners or SFPUC Planners may want to request further Planning Department consultation with the Information and Analysis Group to determine if a particular project falls within the LUA. ABAG's projections and the Department's LUA take into account urban economic trends and based on that information capture all reasonably foreseeable growth in San Francisco. Limited capital and aggregate demand of any urban economy constrains growth. However, occasionally the reality or perception may arise that a project lies outside the normal growth constraints of the San Francisco economy for some reason, and therefore lies outside ABAG's projection's and the Department's current spatial allocation in its LUA.

One can envision the rare case of a project arising outside the City's economy (demand and capital) from an organization not located in San Francisco using nonprofit foundation funds or private donations to construct a large institutional project in San Francisco, such as a major hospital, a university, or an office complex. These projects would represent spending and demand beyond that normally active in the San Francisco economy, and therefore represent net additions to projected growth beyond that captured by ABAG's projections and reflected in the Department's LUA. Indicative characteristics of such projects

would include those with non-local sponsors, of large size, and for an institutional land use. Alternatively, very large project proposals from local project sponsors active in the SF economy involving a large site, land assembly, a planned unit development (PUDs), master plans, or area plan and rezoning proposals may warrant individual assessment for a range of reasons even though they are likely captured in ABAG's projections and the LUA. Such projects would be similar to recent projects such as Hunters Point/Candlestick, Park Merced, Treasure Island, Pier 70 Master Plan, Eastern Neighborhoods, or the Transit Center District Plan.

The bi-annual update of ABAG's projections and the LUA would be able to capture development associated with such projects. However, should such a project be proposed between updates, the EP Planners and SFPUC could treat its appearance as sufficient cause to request the Planning Department's assistance in determining whether to consider the project outside the latest LUA projections.

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[1] Please see ABAG's summary of its research and forecasting on its website: http://www.abag.ca.gov/planning/research/index.html

[2] ABAG describes its current Jobs-Housing Scenario policy-based forecast here: http://onebayarea.org/pdf/JHCS/May_2012_Jobs_Housing_Connection_Strategy_Appendices_Low_Res.pdf.

[3] The LUA citywide totals only differ slightly, up to within one percent of ABAG totals (+/-). The difference is produced by LUA's complex method of translating ABAG projections into development (residential units and commercial space) and allocating total citywide growth to subarea locations. The minor difference between the LUA and ABAG citywide totals is real in absolute terms, but not in the sense that they are different projections. The one percent difference does not constitute a difference of projections. ABAG and MTC consider variation of one percent in citywide totals, plus or minus, as sufficiently representing ABAG's projections for consistency with the MTC regional projections and modeling purposes (congestion management, etc.). Even if a few versions of the LUA must be done to make minor subarea spatial allocation corrections, as long as the LUA's citywide totals are within one percent of ABAG's projections, and ABAG's projections have not changed, the LUA citywide totals have not effectively changed either. Any of those LUA versions' citywide totals fully represent the same unchanged ABAG projection totals.

Attachment B –

3333 California Street Project Demand Memo

SAN FRANCISCO
PLANNING DEPARTMENT

MEMO

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DATE: May 2, 2017

TO: Fan Lau, SFPUC

FROM: Chris Thomas, Environmental Planning

CC: Deborah Dwyer, Environmental Planning

RE: 3333 California Street Project Water Supply Assessment Request (Planning Department Case No. 2015-014028ENV)

The purpose of this memorandum is to request that the San Francisco Public Utilities Commission (SFPUC) prepare a Water Supply Assessment (WSA) for the proposed 3333 California Street mixed-use residential project, in compliance with CEQA Guidelines Section 15155 and Sections 10910 through 10915 of the California Water Code. As indicated in the attached request for a Water Supply Assessment, two projects are currently under consideration: the proposed project which includes 558 dwelling units and the Senior Housing Variant which includes a total of 744 dwelling units. As indicated, both developments would also include commercial office, retail, day care and open space components.

The project sponsor has provided project information intended to meet the requirements outlined in the SFPUC guidance memo dated September 6, 2016. The project is proposed to be constructed in four phases over a 10 year period. A summary of the project description, proposed average daily water demands, and supporting tables prepared by the project sponsor's consultant (based on the SFPUC Non-Potable Water Calculator Version 5.3), are attached. Non-Potable Water Calculator spreadsheets for both the proposed project and the Senior Housing Variant are also attached.

Should you have questions or need additional information from the Planning Department or the project sponsor, please contact me at 415-575-9036 or christopher.thomas@sfgov.org.

Updated April 28, 2017

Chris Thomas
SFPUC: Water Resources Division
Non-Potable Program
525 Golden Gate Ave, 10th Floor
San Francisco, CA 94102
christopher.thomas@sfgov.org
Phone: 415-575-9036

Via Email

Re: 3333 California Street
Case File No. 2015.014028ENV

Water Supply Assessment

Dear Mr. Thomas,

The proposed redevelopment project at 3333 California Street (Block 1032 and Lot 003) is currently undergoing Environmental Review (Environmental Planner Debra Dwyer). We appreciate your review of the attached submission to ensure that the SFPUC has the necessary supporting documentation for the WSA, and it is in the proper format. We have revised the information herein based on Fan Lau's initial comments.

PROJECT DESCRIPTION

The Proposed Project would redevelop the 10.25-acre parcel at 3333 California Street in the northwest portion of San Francisco from an office and parking use to a mix of residential, retail, commercial office, child care, and parking uses. It is currently used as the University of California San Francisco (UCSF) Laurel Heights Campus and is developed with two structures, three surface parking lots, two circular garage ramp structures, internal roadways and landscaping or landscaped open space.

The Proposed Project would entail the demolition of the existing one-story annex building at the corner of California and Laurel Streets (northwest corner of the site), the demolition of the existing surface parking lots and circular garage ramp structures, and the partial demolition (approximately 49 percent) of the existing office building located at the center of the project site. The remaining portion of the existing office building would be divided into two separate residential buildings, Center Building A and Center Building B, with a two-story addition atop Center Building A and a two- to three-story addition above Center Building

B. The Proposed Project would also include the construction of 13 new buildings along the California Street, Masonic Avenue, Euclid Avenue, and Laurel Street edges:

- Two (2) four- to five-story mixed use residential buildings with ground floor retail along California Street between Laurel and Walnut Streets (the Plaza A and Plaza B Buildings);
- One (1) three-story mixed use (ground floor retail and child care) with commercial office building along California Street east of Walnut Street (the Walnut Building);
- Two (2) four- to six-story mixed use buildings along Masonic and Euclid Avenues (the Masonic and Euclid Buildings);
- Seven (7) three- to four-story townhomes along Laurel Street (the Laurel Duplexes); and
- One (1) four-story residential building near the Laurel Street and Mayfair Drive intersection (the Mayfair Building).

Overall, the Proposed Project would entail the removal of approximately 376,000 gross square feet of office uses with approximately 49,999 gsf relocated to the proposed Walnut Building. Table 1 provides a summary of the proposed changes.[1] As noted below, the Proposed Project would include 558 dwelling units within 818,247 gross square feet of residential floor area. The Proposed Project would provide 49,999 gross square feet of commercial office floor area; 54,967 gross square feet of retail floor area; and a 14,620-gross-square-foot child care center use. Up to 898 vehicle parking spaces, including ten car share spaces, would be provided in multiple garages with up to three subterranean levels totaling approximately 435,767 gsf. Estimated occupancy totals for the proposed uses were calculated using the occupant density defaults from the SFPUC Nonpotable Calculator Spreadsheet, with the exception of Phase 1 and 2 residential, which was estimated at 2.25 people/unit rather than the default value of 2.01 people/unit based on unit type mix. The total estimated occupancy counts are shown in Table 3. Additionally, the Proposed Project would develop approximately 53 percent of the overall lot area (approximately 236,900 square feet – excluding green roofs) with a combination of public and private open spaces including: Euclid Park, Cypress Square, Mayfair Walk, and Walnut Walk. The Proposed Project would also widen the adjacent sidewalks to meet the requirements of the *Better Streets Plan* and include other improvements as part of a series of proposed streetscape changes.

Table 1: Project Summary

Project Features	Existing	Existing to Be Retained	New Construction	Proposed Totals
Dwelling Units	--	--	558	**558**
Number of Buildings	2	1	13	**14**
Open Space	Yes	--	236,900 square feet	**236,900 square feet**
Parking Spaces	543 [a]	543	355	**898**
Loading Spaces	5	--	6	**6**
Bicycle Spaces	15	--	659	**659**

[1] Square footages presented are approximate.

Existing Use	Existing Gross Square Footage	Existing Uses to Be Retained (gsf)	New Construction / Additions (gsf)	Proposed Project Totals (gsf)
Office				
Office to Residential	376,000 [b]	205,356 [c]	612,891 [d]	**818,247**
Office to Office		--	49,999 [e]	**49,999**
Retail	--	--	54,967 [f]	**54,967**
Child Care	--	--	14,620 [g]	**14,620**
Structured Parking [h]	93,000	93,000	342,767	**435,767**
Total gsf	***469,000***	***298,356***	***1,075,244***	***1,373,600***

Notes:

[a] Surface (331) and garage (212) parking spaces.

[b] Total includes 349,500 gsf of office uses in the existing office building (Floors 1 through 4 and Basement Level 1), 12,500 gsf of non-office uses (storage areas) on Basement Levels 1 through 3 of the existing office building, and the 14,000-gsf annex building.

[c] Existing office building would be retained and adaptively reused as two separate residential buildings, and the annex building would be demolished.

[d] Includes the additions to the adaptively reused office building and new residential uses along California Street, Masonic Avenue, Euclid Avenue, and Laurel Street.

[e] Existing office uses would be relocated to the proposed Walnut Building.

[f] New retail uses would be developed at the ground floor of the proposed Plaza A, Plaza B, Walnut, and Euclid Buildings.

[g] New child care uses would be developed in the proposed Walnut Building.

[h] The existing three-level, partially below-grade parking garage under the eastern portion of the existing office building would be reconstructed as part of the proposed California Street Garage under the proposed Plaza A, Plaza B, and Walnut Buildings as well as the adaptively-reused Center Building B. New below-grade parking would be developed under the proposed Masonic and Euclid Buildings, the proposed Laurel Duplexes, and the proposed Mayfair Building.

Table 2: Project Unit Types

PROJECT TOTALS	Building	JR	1-BED	2-BED	3-BED	4-BED or PH	TOTAL
	Plaza A	18	22	23	4	0	67
	Plaza B	9	21	25	6	0	61
	Walnut	0	0	0	0	0	0
	Center Bldg A	0	24	11	10	6	51
	Center Bldg B	0	49	51	30	9	139
	Masonic	0	27	24	10	0	61
	Euclid	0	50	52	33	0	135
	Laurel Duplexes	0	0	2	0	12	14
	Mayfair	0	13	8	9	0	30
	Total	**27**	**206**	**196**	**102**	**27**	**558**
		5%	*37%*	*35%*	*18%*	*5%*	*100%*

Table 3: Proposed Project Estimated Occupancies

	Estimated Residents	Estimated Nonresidential FTE Occupancy (including visitors)	Total
Phase 1 (est 2022)	441	41	482
Phase 2 (est 2023)	428	0	428
Phase 3 (est 2025)	257	878	1,135
Phase 4 (est 2027)	88	0	88
Full Buildout	1,214	918	2,133

PROJECT DESCRIPTION: MIXED USE SENIOR HOUSING VARIANT

The project sponsor is considering a variant to the Proposed Project, referred to as the Mixed-Use Senior Housing Variant ("variant"). This variant would allow for the development of 744 dwelling units on the project site; an increase of 186 dwelling units over the number in the Proposed Project. Under this variant, the approximately 49,999 gsf of commercial office space in the proposed Walnut Building would be changed to a residential use. In this variant, the Walnut Building would be comprised of 153,920 gsf of residential use, 18,800 gsf of retail use, 180,800 gsf of below grade garage and retain the 14,620 gsf of childcare use. The total Walnut Building in the variant would be 368,140 gsf.

Overall, approximately 1,473,001 gsf of new and rehabilitated space, comprising approximately 972,167 gsf of residential floor area; approximately 47,407 gsf of ground floor retail spaces; and approximately 14,620 gsf of childcare center space would be developed under the Mixed-Use Senior Housing Variant. Up to 871 vehicle parking spaces, including ten car share spaces would be provided in multiple garages with up to three subterranean levels totaling approximately 438,807 gsf. Approximately 236,900 square feet of publicly accessible and private open space would be provided throughout the site. Under this variant the footprints of the other proposed new buildings would not change.

Table 4: Variant Project Summary

VARIANT AREAS	Bldg	Residential Gross SF	Retail Gross SF	Commercial Gross SF	Childcare Gross SF	Garage Gross SF	TOTAL GSF
	Plaza A	66,025	12,470	0	0	60,060	138,555
	Plaza B	72,220	11,850	0	0	67,820	151,890
	Walnut	153,920	18,800	0	14,620	180,800	368,140
	Center Bldg A	89,465	0	0	0	0	89,465
	Center Bldg B	230,928	0	0	0	23,227	254,155
	Masonic	87,168	0	0	0	35,986	123,154
	Euclid	178,847	4,287	0	0	51,991	235,125
	Laurel Duplexes	49,974	0	0	0	3,720	53,694
	Mayfair	43,620	0	0	0	15,203	58,823
	Total	**972,167**	**47,407**	**0**	**14,620**	**438,807**	**1,473,001**

Table 5: Variant Project Unit Types

VARIANT UNITS	Level	JR	1-BED	2-BED	3-BED	4-BED	TOTAL
	Plaza A	18	22	23	4	0	67
	Plaza B	9	21	25	6	0	61
	Walnut	0	185	1	0	0	186
	Center Bldg A	0	24	11	10	6	51
	Center Bldg B	0	49	51	30	9	139
	Masonic	0	27	24	10	0	61
	Euclid	0	50	52	33	0	135
	Laurel Duplexes	0	0	2	0	12	14
	Mayfair	0	13	8	9	0	30
	Total	**27**	**391**	**197**	**102**	**27**	**744**

Table 6: Variant Estimated Occupancies

	Estimated Residents	Estimated Nonresidential FTE Occupancy (including visitors)	Total
Phase 1 (est 2022)	441	41	482
Phase 2 (est 2023)	428	0	428
Phase 3 (est 2025)	631	599	1230
Phase 4 (est 2027)	88	0	88
Full Buildout	1,588	640	2228

PROPOSED INTEGRATED WATER MANAGEMENT APPROACH

The proposed water management approach would be applicable to both the Proposed Project and its variant and is briefly described below. The Proposed Project and its variant would comply with the requirements of City and County of San Francisco ordinances related to water conservation and resources, as applicable, including the San Francisco Green Building Ordinance, the Stormwater Management Ordinance, and the Alternate Water Supplies/Reuse Ordinance, as well as the Water Efficient Irrigation, Residential Water Conservation, and Commercial Water Conservation Ordinances.

Water Conservation

The project site is served by San Francisco's water supply system. To reduce the use of potable water on a per-unit basis, the Proposed Project would provide high-efficiency fixtures and appliances in new and existing buildings. Water wise landscaping will be employed. Nonpotable demands are intended to be met by collected rainwater and greywater treated onsite. The garage is assumed to be washed down quarterly with water-efficient waterbrooms or equivalent. The site is projected to use about 1/3 less water than a comparable development that meets the stringent CALGreen Code.

Stormwater and Wastewater

The project site is served by San Francisco's combined sewer system and is subject to the City's stormwater management requirements. The Proposed Project would reduce loading on the neighborhood stormwater infrastructure by collecting rainwater for reuse. These strategies combined with a site plan targeting over 50 percent planted area, including living roofs, should result in stormwater runoff reductions beyond the 25 percent required by the Stormwater Management Ordinance. No new or enlarged off-site wastewater collection facilities are proposed.

Water + Ecology

A site of this size has the potential to enhance the ecological assets of the neighborhood and city. The Proposed Project would preserve several major trees and greatly increase the total number of trees on the project site and the adjacent sidewalks (replacing over 200 trees including 17 street trees). The proposed landscaping plans would choose native and adapted trees and plants that reduce irrigation demands while managing stormwater.

PROPOSED CONSTRUCTION SCHEDULING AND PHASING

It is the intent of the project sponsor to phase the construction of the Proposed Project or its variant. The preliminary construction plan would include four overlapping construction phases and is subject to change. Project construction would commence in 2020 and would occur within a maximum development period of 10 years as follows:

Phase 1: Masonic and Euclid Buildings

- Duration: 30 month
- Phase would include the demolition of the existing annex building and the construction of 266,015 gsf of residential uses (196 units), 4,287 gsf of retail uses, and 87,977 gsf of garage space totaling 358,279 gsf of new construction.
- Includes Walnut Walk South and eastern portion of Euclid Park (private) and related adjacent public right of way improvements.

Phase 2: Center Buildings A and B (existing office building)

- Duration: 24 months; anticipated to commence on Month 20 of Phase 1
- Phase would include the partial demolition of the existing office building and the construction of 320,393 gsf of residential uses (190 units) and 23,227 gsf of garage space totaling 343,620 gsf of construction.
- Parking for these buildings would be programmed below Center Building B, and in the Masonic/Euclid and California Street Garages. Project sponsor plans to use valet strategies within the constructed garages or within available area on the site should the California Street Garage parking not be available at the time of occupancy.

Phase 3: California Street Buildings (Plaza A, Plaza B, and Walnut Buildings)

- Duration: 36 months; anticipated to commence on Month 15 of Phase 2

- Phase would include the construction of 138,245 gsf of residential uses (128 units), 50,680 gsf of retail uses, 49,999 gsf of office uses, 14,620 gsf of childcare space, and 305,640 gsf of garage space totaling 559,184 gsf of new construction.
- Includes Walnut Walk North, Mayfair Walk, Presidio Overlook, Pine Plaza and related adjacent public right of way improvements.

Phase 4: Mayfair Building and Laurel Duplexes

- Duration: 20 months; anticipated to commence on Month 30 of Phase 3
- Phase would include the construction of 93,594 gsf of residential uses (44 units) and 18,923 gsf of garage space totaling 112,517 gsf of new construction.
- Includes western part of Euclid Park (public) and related adjacent public right of way improvements.

The preliminary construction phasing plan would also be applicable to the variant with the exception of Phase 3. Under the variant, Phase 3 would include the development of 153,920 gsf of residential uses (186 units of senior housing), substituting for 49,999 gsf of commercial office space in the Walnut Building and 7,560 gsf of retail space in the Plaza A, Plaza B, and Walnut Buildings. Under the variant, Phase 3 garage space would increase by 3,040 gsf (from 305,640 gsf for the Proposed Project to 308,680 gsf).

WATER USE ESTIMATES

The following tables summarize the potable and nonpotable water demand estimates for the Proposed Project and the Mixed-Use Senior Housing Variant and are based off the proposed uses and the preliminary construction phasing program. These estimates are preliminary and may be refined at a later time as project designs progress. The estimates include better than code average fixture flowrates (though are conservative in that they do not take the very lowest flowrate available in all cases), and include the maximum potential living roof area contemplated as a conservative case from a water supply perspective (more irrigation, less capturable rainwater). Targeted rainwater and greywater reuse would offset about 30% of the projected use according to the SFPUC calculator tool (see Attachment A for the Proposed Project and Attachment B for the Variant). The portion of nonpotable demands anticipated to be met onsite are broken out separately from potable demand in the below estimates. Estimated water demands for the garage are not large enough to alter the significant figures in the mgd totals below.

Dry year estimates assume that irrigation and hand-watering demands increase, and do not account for additional dry year conservation by residents, though that would most likely occur (and be encouraged). Estimates by year follow calculator estimates for phases complete at the end of each shown calendar year, so the 2025 estimate includes Phases 1-3, and the 2030 and later estimates include full buildout.

Existing Usage

Site water use data provided to the project team from 2012-2014 indicate that existing usage tends to average about 20,000 gpd (0.02 mgd), with peak months averaging around 26,000 gpd (0.026 mgd). It is possible that this data set does not include 100% of the current site water demands, but we believe it does.

Proposed Project

Table 7: Proposed Project Estimated Total Water Demand Based on Water Year Type

	Normal	Single dry	Multiple 2	Multiple 3	Multiple 4
Total to be met with potable water (mgd)	0.0413	0.0415	0.0417	0.0417	0.0417
Total to be met with onsite non-potable water (mgd)	0.0183	0.0195	0.0203	0.0204	0.0204
Total estimated demand of proposed project (mgd)	0.0596	0.0610	0.0619	0.0621	0.0621

Table 8: Proposed Project Estimated Total Water Demand Based on Project Phasing

Usage at End of Year	**2015**	**2020**	**2025**	**2030**	**2035**
Total to be met with potable water (mgd)	0	0	0.0385	0.0413	0.0413
Total to be met with onsite non-potable water (mgd)	0	0	0.0178	0.0183	0.0183
Total estimated demand of proposed project (mgd)	0	0	0.0562	0.0596	0.0596

Mixed Use Senior Housing Variant

Table 9: Variant Estimated Total Water Demand Based on Water Year Type

	Normal	Single dry	Multiple 2	Multiple 3	Multiple 4
Total to be met with potable water (mgd)	0.0531	0.0533	0.0535	0.0535	0.0535
Total to be met with onsite non-potable water (mgd)	0.0199	0.0211	0.0218	0.0219	0.0219
Total estimated demand of Variant (mgd)	0.0729	0.0744	0.0753	0.0755	0.0755

Table 10: Variant Estimated Total Water Demand Based on Project Phasing

Usage at End of Year	2015	2020	2025	2030	2035
Total to be met with potable water (mgd)	0	0	0.0502	0.0531	0.0531
Total to be met with onsite non-potable water (mgd)	0	0	0.0193	0.0199	0.0199
Total estimated demand of Variant (mgd)	0	0	0.0695	0.0729	0.0729

If you have any questions, please feel free to reach out directly to me at 415-857-9324 or dbragg@pradogroup.com.

Best Regards,

Don Bragg
Development Director, Prado Group Inc.

Attachments: Alternate Water Supply Project Compliance: Project (3 pgs.)
Alternate Water Supply Project Compliance: Variant (3 pgs.)

cc: Debra Dwyer and Jessica Range, SF Planning Department
Peter Mye, SWCA

NON-POTABLE WATER CALCULATOR

Project Summary Sheet

Project Contact: Don Bragg
415.395.0880
dbragg@pradogroup.com

Estimated Site/Building Permit Issuance Date: 12/31/2019

Total Gross Square Footage: 937,833

1. Demands and Supplies Summary

Demands Met by Non-Potable Supply for Project (gpy):	**6,675,500**	**Project is 250,000 square feet in size or greater and is not elegible for a grant**
Demands Met by Non-Potable Supply for Project *:	***31%***	Achieving estimated offset may require storage to store excess monthly supplies;
Project Total Annual Water Demand (gpy) *:	***21,763,290***	
If Grant Offset Criteria Met, Occurs in Year:	**2027**	

*Note: Estimates based on Tab 6 - Building Potential Summary total water demand values. Manually entered non-potable demands that exceed auto-calculated non-potable demands from Tab 6 may result in Total Annual Water demands greater than the value used in this analysis

2. Building Information Summary

	Main Project Site 1	Site 2	Site 3
Project / Building Name:	**3333 California**	**3333 California Phase 2**	**3333 California Phases 3+4**
Project Address:	3333 California St, SanFrancisco, CA	3333 California St, SanFrancisco, CA	3333 California St, SanFrancisco, CA
Assessor's Block & Lot No. / APN:	1032/003	1032/003	1032/003
Year Online:	2027	2027	2027
Building Type:	Mixres	Resident	Mixres
Total Building Size (gross square footage or GSF):	270,302	320,393	347,138
Total Lot Size (ft^2):	178,587	89,294	178,588
Number of Residential Units:	196	190	172
Impervious Surface Above Grade (ft^2):	13,000	22,500	30,688
Impervious Surface Below Grade (ft^2):	59,225	35,535	142,140
Landscaped Area (ft^2):	64,175	20,545	118,092
Site Location (Zone):	Eastern SF	Eastern SF	Eastern SF

3. Summary of Nonpotable Demands and Supplies for the Project

Non-Potable Water Supply Estimates

On-site Alternate Water Source Supplies	Annual Supply (gpy)	Annual Supply (gpy)	Annual Supply (gpy)	Total (gpy)
Rainwater:	155,119	208,329	268,584	**632,032**
Stormwater:	0	0	0	**0**
Graywater:	2,658,821	2,576,117	2,119,487	**7,354,425**
Blackwater:	0	0	0	**0**
Foundation Drainage	0	0	0	**0**
Cooling & Other Supplies	0	0	0	**0**
TOTAL :	**2,813,940**	**2,784,445**	**2,388,071**	**7,986,456**

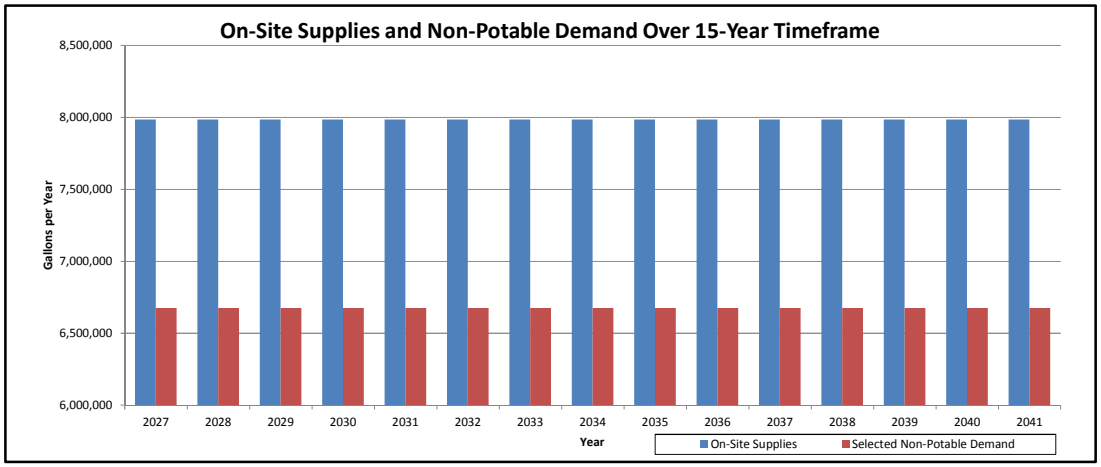
Non-Potable Applications Estimates

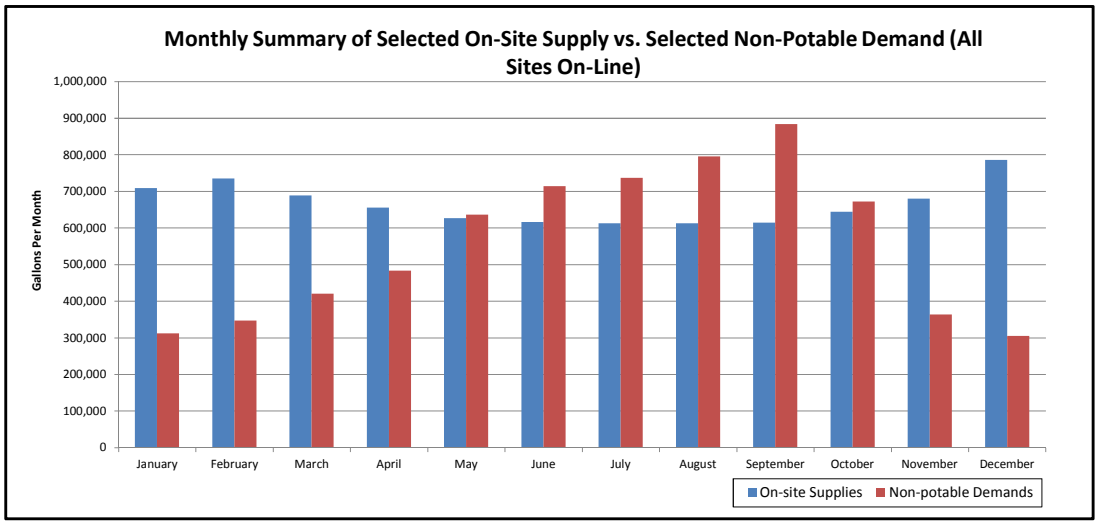
Project Specific Non-Potable Application Demands	Annual Demand (gpy)	Annual Demand (gpy)	Annual Demand (gpy)	Total (gpy)
Toilets/Urinals:	993,131	948,708	1,113,115	**3,054,954**
Irrigation:	527,048	165,008	933,479	**1,625,535**
Toilets/Urinals + Irrigation:	1,520,179	1,113,716	2,046,594	**4,680,489**
Cooling Tower:	498,750	698,250	798,000	**1,995,000**
Commercial Laundry & Other	0	0	0	**0**
Total :	**2,018,929**	**1,811,966**	**2,844,594**	**6,675,489**

4. Project Phasing

15-Year Timeframe	SITE 1: 3333 California -- 3333 California St, SanFrancisco, CA		SITE 2: 3333 California Phase 2 -- 3333 California St, SanFrancisco, CA		SITE 3: 3333 California Phases 3+4 -- 3333 California St, SanFrancisco, CA		
	NP Offset Supplies (gpy)	Selected NP Demand (gpy)	NP Offset Supplies (gpy)	Selected NP Demand (gpy)	NP Offset Supplies (gpy)	Selected NP Demand (gpy)	Re-Used Non-Potable Supplies (gpy)
2027	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2028	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2029	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2030	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2031	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2032	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2033	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2034	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2035	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2036	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2037	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2038	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2039	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2040	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489
2041	2,813,940	2,018,929	2,784,445	1,811,966	2,388,071	2,844,594	6,675,489

This offset analysis assumes the full year of supplies is available to offset non-potable demands. Some scenarios may require storage to store excess supplies from one month in order to use those supplies in another month with unmet demands.





NON-POTABLE WATER CALCULATOR

Project Summary Sheet

Project Contact: Don Bragg
415.395.0880
dbragg@pradogroup.com

Estimated Site/Building Permit Issuance Date: 12/31/2019

Total Gross Square Footage: 1,034,194

1. Demands and Supplies Summary

Demands Met by Non-Potable Supply for Project (gpy):	**7,249,500**	**Project is 250,000 square feet in size or greater and is not elegible for a grant**
Demands Met by Non-Potable Supply for Project *:	***27%***	Achieving estimated offset may require storage to store excess monthly supplies;
Project Total Annual Water Demand (gpy) *:	***26,617,083***	
If Grant Offset Criteria Met, Occurs in Year:	**2027**	

*Note: Estimates based on Tab 6 - Building Potential Summary total water demand values. Manually entered non-potable demands that exceed auto-calculated non-potable demands from Tab 6 may result in Total Annual Water demands greater than the value used in this analysis

2. Building Information Summary

	Main Project Site 1	**Site 2**	**Site 3**
Project / Building Name:	**3333 California**	**3333 California Phase 2**	**3333 California Phases 3+4**
Project Address:	3333 California St, SanFrancisco, CA	3333 California St, SanFrancisco, CA	3333 California St, SanFrancisco, CA
Assessor's Block & Lot No. / APN:	1032/003	1032/003	1032/003
Year Online:	2027	2027	2027
Building Type:	Mixres	Resident	Mixres
Total Building Size (gross square footage or GSF):	270,302	320,393	443,499
Total Lot Size (ft^2):	178,587	89,294	178,588
Number of Residential Units:	196	190	358
Impervious Surface Above Grade (ft^2):	13,000	22,500	30,688
Impervious Surface Below Grade (ft^2):	59,225	35,535	142,140
Landscaped Area (ft^2):	64,175	20,545	118,092
Site Location (Zone):	Eastern SF	Eastern SF	Eastern SF

3. Summary of Nonpotable Demands and Supplies for the Project

Non-Potable Water Supply Estimates

On-site Alternate Water Source Supplies	**Annual Supply (gpy)**	**Annual Supply (gpy)**	**Annual Supply (gpy)**	**Total (gpy)**
Rainwater:	155,119	208,329	303,836	**667,284**
Stormwater:	0	0	0	**0**
Graywater:	2,658,821	2,576,117	4,353,731	**9,588,669**
Blackwater:	0	0	0	**0**
Foundation Drainage	0	0	0	**0**
Cooling & Other Supplies	0	0	0	**0**
TOTAL :	**2,813,940**	**2,784,445**	**4,657,567**	**10,255,953**

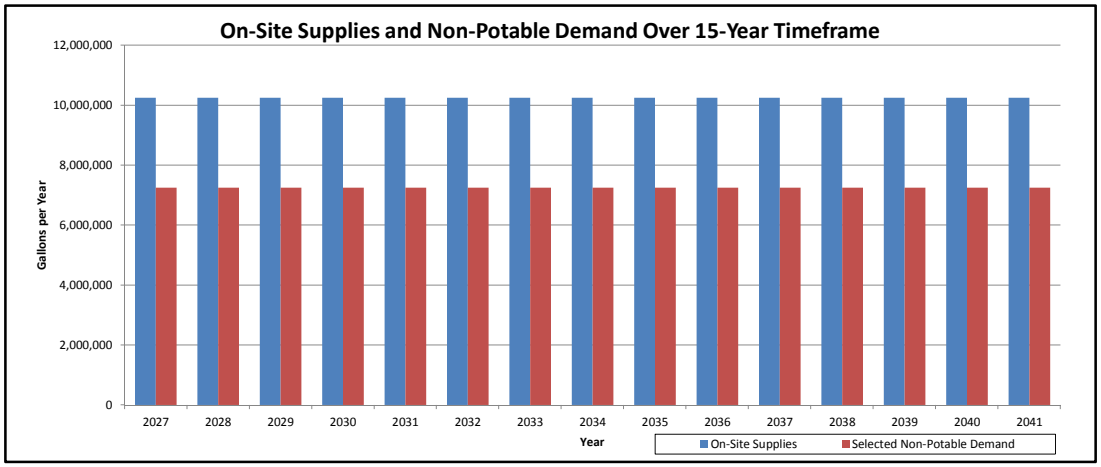
Non-Potable Applications Estimates

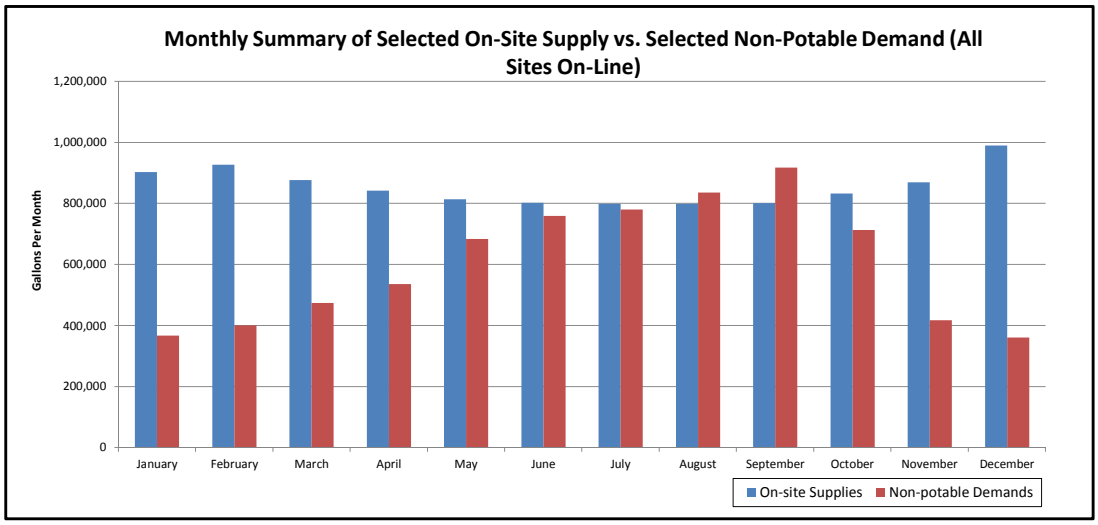
Project Specific Non-Potable Application Demands	**Annual Demand (gpy)**	**Annual Demand (gpy)**	**Annual Demand (gpy)**	**Total (gpy)**
Toilets/Urinals:	993,131	948,708	1,786,795	**3,728,634**
Irrigation:	527,048	165,008	933,479	**1,625,535**
Toilets/Urinals + Irrigation:	1,520,179	1,113,716	2,720,274	**5,354,169**
Cooling Tower:	498,750	698,250	698,250	**1,895,250**
Commercial Laundry & Other	0	0	0	**0**
Total :	**2,018,929**	**1,811,966**	**3,418,524**	**7,249,419**

4. Project Phasing

15-Year Timeframe	SITE 1: 3333 California -- 3333 California St, SanFrancisco, CA		SITE 2: 3333 California Phase 2 -- 3333 California St, SanFrancisco, CA		SITE 3: 3333 California Phases 3+4 -- 3333 California St, SanFrancisco, CA		
	NP Offset Supplies (gpy)	Selected NP Demand (gpy)	NP Offset Supplies (gpy)	Selected NP Demand (gpy)	NP Offset Supplies (gpy)	Selected NP Demand (gpy)	Re-Used Non-Potable Supplies (gpy)
2027	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2028	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2029	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2030	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2031	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2032	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2033	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2034	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2035	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2036	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2037	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2038	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2039	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2040	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419
2041	2,813,940	2,018,929	2,784,445	1,811,966	4,657,567	3,418,524	7,249,419

This offset analysis assumes the full year of supplies is available to offset non-potable demands. Some scenarios may require storage to store excess supplies from one month in order to use those supplies in another month with unmet demands.





APPENDIX 1
RAMBOLL SUPPORTING TABLES

Table Con-1. Construction Phase Duration by Year
3333 California St AB900
San Francisco, CA

Phase	Phase Name	Start Date	End Date	Total number of work days	Construction phase duration by year[1,2]							
					2020	2021	2022	2023	2024	2025	2026	2027
1	Masonic/Euclid	3/2/2020	8/19/2022	645	34%	41%	26%	--	--	--	--	--
2	Center Building A/B	9/10/2021	8/31/2023	515	--	16%	51%	34%	--	--	--	--
3	Plaza A/Plaza B/ Walnut	12/4/2022	11/18/2025	773	--	--	3%	34%	34%	30%	--	--
4	Mayfair/Townhouse/Euclid Park	5/22/2025	1/12/2027	429	--	--	--	--	--	37%	61%	2%
			TOTAL	**2,362**								

Notes:

[1] Construction duration per year is calculated as construction duration of phase in a year/total construction duration.

[2] Total percentages in the table may not add up to 100% due to rounding.

Table Con-2. Project Off-Road Diesel Construction Equipment List
3333 California Street
San Francisco, California

Subphase[1]	Equipment Type	Number	Hours/day	Horsepower	Load Factor	Phase
Exterior	Aerial Lifts	2	8	63	0.31	All
Demolition	Air Compressors	2	5	78	0.48	All
Excavation	Crawler Tractors with Rippers	1	8	208	0.43	All
Excavation	Excavators	2	8	163	0.38	All
Excavation	Excavators with Hoe Ram	2	8	163	0.38	All
Exterior	Forklifts	1	8	89	0.20	All
Exterior	Pavers	1	8	126	0.42	Street Paving[1]
Exterior	Paving Equipment	1	8	131	0.36	Street Paving[1]
Structure	Pumps	1	8	84	0.74	Pouring Days[2]
Exterior	Rollers	1	6	81	0.38	Street Paving[1]
All	Rough Terrain Forklifts	2	8	100	0.40	All
Demolition	Skid Steer Loaders (Bobcat)	1	8	65	0.37	All
All	Sweepers/Scrubbers	1	3	64	0.46	All
Excavation	Tractors/Loaders/Backhoes	2	8	98	0.37	All

Notes:

1. Street paving occurs for one day at the completion of each construction phase.
2. There will be approximately 50 pouring days during Phase 1, 15 pouring days during Phase 2, 70 pouring days during Phase 3, and 12 pouring days during Phase 4.

Table Con-3. Construction Offroad and Onroad GHG Emissions
3333 California St AB900
San Francisco, CA

Emission Source	Phase	Total CO_2e Emissions (MT)	CO_2e Emissions by Year[1]							
			2020	2021	2022	2023	2024	2025	2026	2027
Offroad Diesel Equipment[2]	1	512	173	207	131	--	--	--	--	--
	2	259	--	41	131	87	--	--	--	--
	3	573	--	--	15	194	194	170	--	--
	4	122	--	--	--	--	--	46	74	2
Onroad Trucks and Vehicles[3]	1	763	259	309	195	--	--	--	--	--
	2	58	--	9	29	19	--	--	--	--
	3	745	--	--	19	252	252	221	--	--
	4	152	--	--	--	--	--	57	92	3
Total	All	3,182	432	567	520	552	447	494	167	5

Notes:

[1] Yearly emissions split by fraction of phase in each year.

[2] Emissions are calculated based on default CalEEMod® off-road construction equipment tiers for each piece of equipment in the emissions year modeled. A construction equipment list and hours of operation for each piece of equipment for each phase were provided by the Project Sponsor.

[3] Total number of hauling, concrete, and delivery trips and trip distances are discussed in Table Con-5.

Abbreviations:

CO_2e - carbon dioxide equivalents

MT - metric ton

Table Con-4. Electricity Usage and Emissions from Construction Electric Equipment
3333 California St AB900
San Francisco, California

Electricity Usage[1]

Total Electricity Usage	7,169,549	kWh

Phase	Number of Days	Electric Equipment Usage (kWh)	Usage by Year[2] (kWh)							
			2020	2021	2022	2023	2024	2025	2026	2027
1	645	1,957,815	663,482	794,003	500,331	--	--	--	--	--
2	515	1,563,217	--	245,338	792,464	525,414	--	--	--	--
3	773	2,346,343	--	--	60,831	792,977	795,149	697,385	--	--
4	429	1,302,175	--	--	--	--	--	486,145	792,156	23,873
Total	2,362	7,169,549	663,482	1,039,341	1,353,626	1,318,391	795,149	1,183,530	792,156	23,873

Phase	CO_2e Intensity Factor by Year[3] (lb CO_2e/MWh)							
	2020	2021	2022	2023	2024	2025	2026	2027
All	363	354	345	335	326	317	308	299

Phase	CO_2e Emissions by Year (MT/yr)							
	2020	2021	2022	2023	2024	2025	2026	2027
1	109	127	78	--	--	--	--	--
2	--	39	124	80	--	--	--	--
3	--	--	9.5	121	118	100	--	--
4	--	--	--	--	--	70	111	3.2
Total	109	167	212	201	118	170	111	3.2

Notes:

[1] Total electricity usage from SWCA's Energy Assessment report (July 2018).

[2] Yearly electricity usage split by fraction of phase in each year. Electricity usage and GHG emissions are same for both Project and Project Variant.

[3] See Table Ops-5 for CO_2e intensity factor calculations.

Abbreviations:

CO_2e - carbon dioxide equivalents
kWh - kilowatt hour
lb - pound
MT - metric ton
MWh - megawatt hour
yr - year

Table Con-5. Project Construction Trip Assumptions
3333 California Street
San Francisco, California

Phase	Trip Category	Total Trips[1]	Total Trip Length[2] (miles)
1	Worker	58,050	21
2		38,625	
3		69,570	
4		32,175	
1	Non-hauling	2,500	14
2		500	
3		3,500	
4		400	
1	Vendor	1,300	14
2		1,000	
3		1,500	
4		850	
1	Hauling (Hazardous Waste)	1,636	60
2		24	
3		1,631	
4		313	
1	Hauling (Non-Hazardous Waste)	3,271	17
2		48	
3		3,263	
4		626	
1		3,271	48
2		48	
3		3,263	
4		626	

Notes:

1. Trips were provided by the Project Sponsor.
2. Worker, non-hauling, and vendor trip lengths assume CalEEMod® default values. Hauling trip lengths were provided by the Project Sponsor.

Abbreviations:

CalEEMod® - California Emissions Estimator MODel

Table Con-6. Water Usage and Emissions from Construction Dust Control
3333 California St AB900
San Francisco, California

Usage Information[1]

Total water consumption	226,500	gallons
Energy intensity	0.005411	kWh/gallon
Total electricity use	1,226	kWh

Phase	Number of Days	Total Electricity (kWh)	Electricity by Year[2] (kWh)							
			2020	2021	2022	2023	2024	2025	2026	2027
1	147	509	172	206	130	--	--	--	--	--
2	20	69	--	11	35	23	--	--	--	--
3	147	509	--	--	13	172	172	151	--	--
4	40	138	--	--	--	--	--	52	84	2.5
Total	354	1,226	172	217	178	195	172	203	84	2.5

Phase	CO_2e Intensity Factor by Year[3] (lb CO_2e/MWh)							
	2020	2021	2022	2023	2024	2025	2026	2027
All	363	354	345	335	326	317	308	299

Phase	CO_2e Emissions by Year (MT/yr)							
	2020	2021	2022	2023	2024	2025	2026	2027
1	0.028	0.033	0.020	--	--	--	--	--
2	--	0.002	0.005	0.004	--	--	--	--
3	--	--	0.002	0.026	0.026	0.022	--	--
4	--	--	--	--	--	0.007	0.012	0.0003
Total	0.028	0.035	0.028	0.030	0.026	0.029	0.012	0.0003

Notes:

[1] Total water consumption and energy intensity from San Francisco Water Power Sewer's Water Supply Assessment and SWCA's Energy Assessment report.

[2] Yearly electricity usage split by fraction of phase in each year.

[3] See Table Ops-5 for CO_2e intensity factor calculations.

Abbreviations:

CO_2e - carbon dioxide equivalents
kWh - kilowatt hour
lb - pound
MT - metric ton
MWh - megawatt hour
yr - year

Table Ops-1a. Trip Rates - Existing Conditions
3333 California St AB900
San Francisco, California

Land Use Data		CalEEMod Defaults[1]						Driveway Count[2]				ITE Trips[2]		Calculated Rates[3]			
Land Use Sub-Type	Size	Weekday Trip Rate	Saturday Trip Rate	Sunday Trip Rate	Weekday Trips	Saturday Trips	Sunday Trips	AM Peak Hour	PM Peak Hour	Scaled AM Peak Hour Trips	Scaled PM Peak Hour Trips	% of Daily Trips in AM Count	% of Daily Trips in PM Count	Weekday Trip Counts	Weekday Trip Rate	Saturday Trip Rate	Sunday Trip Rate
	ksf	trips/ksf/day			trips/day			trips/hr	trips/hr	trips	trips	%	%	trips/day	trips/ksf/day		
General Office Building	352	11.03	2.46	1.05	3,883	866	370	266	296	218	243	8.2%	8.5%	2,758	7.84	1.75	0.75
Day-care Center	11.5	74.06	6.21	5.83	852	71	67			48	53	17.6%	18%	284	24.68	2.07	1.94

Notes:

[1] CalEEMod version 2016.3.2 default trip rates for San Francisco County, urban setting.

[2] AM and PM peak hour driveway counts and percent of daily trips in AM and PM count from Project Travel Demand Memorandum (Kittelson & Associates, March 2018). Scaled by land use using CalEEMod default trips.

[3] Weekday trip counts estimated by dividing AM and PM peak hour trips by ITE percent of daily trips in AM and PM trips and taking the average of the two values. Weekend trip rates estimated using ratio of CalEEMod default weekday to weekend rates.

Abbreviations:

hr - hour
ksf - thousand square feet
ITE - Institute of Transportation Engineers

Table Ops-1b. Trip Rates - Project and Project Variant
3333 California St AB900
San Francisco, California

Project[1]

Land Use Sub-Type	Size Metric	Size	Person-Trips	Adjusted Person-Trips	Vehicle Trips	Trip Rate
			(trips/day)	(trips/day)	(trips/day)	(trip/size/ day)
Apartments Mid Rise	Dwelling Unit	558	5,002	2,498	1,431	2.56
Open Space	Acre	5.42	0	0	0	0
Day-Care Center	1000sqft	14.69	984	491	281	19.16
Enclosed Parking Structure	Spaces	895	0	0	0	0
General Office Building	1000sqft	49.999	905	452	259	5.18
Parking Lot	1000sqft	10.836	0	0	0	0
Strip Mall	1000sqft	54.117	12,753	6,370	3,648	67.41

Variant[1]

Land Use Sub-Type	Size Metric	Size	Person-Trips	Adjusted Person-Trips	Vehicle Trips	Trip Rate
			(trips/day)	(trips/day)	(trips/day)	(trip/size/ day)
Apartments Mid Rise	Dwelling Unit	744	6,670	3,274	1,917	2.58
Open Space	Acre	5.42	0	0	0	0
Day-Care Center	1000sqft	14.65	984	483	283	19.30
Enclosed Parking Structure	Spaces	971	0	0	0	0
General Office Building	1000sqft	0	0	0	0	0
Parking Lot	1000sqft	10.836	0	0	0	0
Strip Mall	1000sqft	48.593	11,925	5,854	3,427	70.52

Notes:

[1] Project and Variant trip rates from the traffic memorandum (Kittelson & Associates, March 2018). Strip mall is assumed to include "General Retail", "Sit-Down", and "Composite" land uses. Daily person-trips are adjusted to remove double-counted internal trips, non-auto trips, and double-counted carpool trips. For emissions purposes, daily trips are assumed constant for weekdays and weekends. These factors are shown below.

Variable	Project	Variant
Total Vehicle-Trips/ Total Person-Trips	0.57	0.59
% internal, average	18.25	19.10
% external auto, average	61.10	60.68

Abbreviations:

1000sqft - thousand square feet

Table Ops-2. Existing Conditions Energy Emissions
3333 California St AB900
San Francisco, California

Energy Sector	Average Monthly Data[1]	Average Annual Usage	Usage Units	Emission Factor	Emissions Factor Units	CO_2e Emissions (MT/year)
Electricity	340	4,076	MWh	363	lbs CO_2e/MWh delivered	671
Natural Gas	1,028	12,332	MMBtu	117.77	lb CO_2e/MMBtu	659
					Total	1,330

Notes:

[1] Average monthly usage from PG&E bills July 2012 - September 2014. Data provided by Project Sponsor.

Abbreviations:

CO_2e - carbon dioxide equivalents
lb - pound
MMBTU - million British Thermal Units
MT - metric ton
MWh - megawatt-hour
PG&E - Pacific Gas and Electric

Table Ops-3. Electricity Intensity Factor Derivations
3333 California St AB900
San Francisco, California

	2014[1,2]	2015[1,3]	2016[1,4]	Average[5]	Units
CO_2 Intensity Factor per Total Energy Delivered	434.92	404.51	293.7	377.7	lbs CO_2/MWh delivered
% of Total Energy From Renewables	27%	29.5%	32.8%	29.8%	
CO_2 Intensity Factor per Total Non-Renewable Energy[6]	595.78	573.77	437	537.8	lbs CO_2/MWh delivered
Estimated Intensity Factor for Total Energy Delivered[7,8]					
2020 RPS (33%)	399.2	384.4	292.8	360.3	lbs CO_2/MWh delivered
	401.7	387.0	295.4	362.9	lbs CO_2e/MWh delivered
2030 RPS (50%)[9]	297.9	286.9	218.5	268.9	lbs CO_2/MWh delivered
	300.5	289.5	221.1	271.453	lbs CO_2e/MWh delivered
2050 RPS (80%)[10]	119.2	114.8	87.4	107.6	lbs CO_2/MWh delivered
	121.7	117.3	90.0	110.1	lbs CO_2e/MWh delivered

Notes:

[1] Total CO_2 emission factor from The Climate Registry. Available at: https://www.theclimateregistry.org/our-members/cris-public-reports/. Accessed: June 2018.

[2] Percent of total energy from eligible renewables is from the PGE 2015 Corporate Responsibility Report. Available at: http://www.pgecorp.com/corp_responsibility/reports/2015/PGE_CRSR_2015.pdf.

[3] Percent of total energy from eligible renewables is from the PGE 2016 Corporate Responsibility Report. Available at: http://www.pgecorp.com/corp_responsibility/reports/2016/PGE_CRSR_Environment.pdf.

[4] Percent of total energy from eligible renewables is from the PGE 2017 Corporate Responsibility Report. Available at: http://www.pgecorp.com/corp_responsibility/reports/2017/assets/PGE_CRSR_2017_Environment.pdf.

[5] This average uses the most recent three years of data.

[6] The emissions metric presented here is calculated based on the total CO_2 intensity factor divided by the percent of energy delivered from non-renewable sources.

[7] The intensity factor for total energy delivered is estimated by multiplying the percentage of energy delivered from non-renewable energy by the CO_2 emissions per total non-renewable energy metric calculated above. The estimate provided here and the energy reports issued by PGE assume that renewable energy sources do not result in any CO_2 emissions.

[8] Global Warming Potentials (GWP) are based on the IPCC Fourth Assessment Report. CH_4 and N_2O emission factors are from the CalEEMod version 2016.3.2 defaults for PGE, and are conservatively assumed not to change from these estimates. As more renewable energy is integrated into the electricity grid, these intensity factors will also decrease.

[9] Emission factor presented here is 50% projected RPS for 2030 consistent with SB 32 and SB 350. Available at: http://www.energy.ca.gov/sb350/.

[10] The projected 2050 RPS target is based on 80% RPS in 2050, consistent with the CARB Final 2017 Scoping Plan, Appendix D PATHWAYS, pg 12 (November, 2017). Available at: https://www.arb.ca.gov/cc/scopingplan/2030sp_appd_pathways_final.pdf

Abbreviations:

CARB - California Air Resources Board
CO_2 - carbon dioxide
GHG - greenhouse gases
IPCC - Intergovernmental Panel on Climate Change
lbs - pounds
MWh - megawatt-hour
RPS - Renewable Portfolio Standards
PGE - Pacific Gas & Electric
SB - Senate Bill

Table Ops-4. Stationary Source Emissions
3333 California St AB900
San Francisco, California

Stationary Source	Engine Tier	HP	Fuel Type	Operation[1]	CO_2e Emission Factor[2]	CO_2e Emissions
				hrs/yr	g/bhp-hr	MT/yr
Existing Generator	None	380	Diesel	20	523.5	4.0
Proposed Generator	Tier 2	1,073	Diesel	50	523.5	28.1

Notes:

[1] Operation of existing generator is 20 hours, based on the existing BAAQMD Permit. Operation of proposed generator is assumed to be 50 hours per year for routine maintenance and testing. This is consistent with the Maximum Allowed Testing Time from the Airborne Toxics Control Measure for Stationary Compression Ignition Engines (17 CCR 93115) for a Tier 2 engine.

[2] Generator emission factors are from CalEEMod and do not depend on engine tier.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
bhp - brake-horsepower
CO2e - carbon dioxide equivalents
g - grams
hrs - hours
MT - metric tons
yr - year

Table Ops-5. Electricity and Mobile Emission Factors
3333 California St AB900
San Francisco, California

Year	CO2e Intensity Factor	Fleet CO2e EF	Change in carbon intensity from previous year	Change in Fleet EF from previous year
	lb CO2e/MWh	metric ton/mi	%	%
2020	363	4.00E-04	--	--
2021	354	3.90E-04	-3%	-2%
2022	345	3.80E-04	-3%	-3%
2023	335	3.69E-04	-3%	-3%
2024	326	3.59E-04	-3%	-3%
2025	317	3.49E-04	-3%	-3%
2026	308	3.40E-04	-3%	-3%
2027	299	3.32E-04	-3%	-2%
2028	290	3.25E-04	-3%	-2%
2029	281	3.18E-04	-3%	-2%
2030	271	3.12E-04	-3%	-2%
2031	263	3.07E-04	-3%	-2%
2032	255	3.03E-04	-3%	-1%
2033	247	2.99E-04	-3%	-1%
2034	239	2.96E-04	-3%	-1%
2035	231	2.93E-04	-3%	-1%
2036	223	2.90E-04	-3%	-1%
2037	215	2.88E-04	-4%	-1%
2038	207	2.86E-04	-4%	-1%
2039	199	2.85E-04	-4%	-1%
2040	191	2.83E-04	-4%	0%
2041	183	2.82E-04	-4%	0%
2042	175	2.81E-04	-4%	0%
2043	167	2.81E-04	-5%	0%
2044	159	2.80E-04	-5%	0%
2045	150	2.80E-04	-5%	0%
2046	142	2.79E-04	-5%	0%
2047	134	2.79E-04	-6%	0%
2048	126	2.78E-04	-6%	0%
2049	118	2.78E-04	-6%	0%
2050	110	2.78E-04	-7%	0%
2051	110	2.78E-04	0%	0%
2052	110	2.78E-04	0%	0%
2053	110	2.78E-04	0%	0%
2054	110	2.78E-04	0%	0%
2055	110	2.78E-04	0%	0%

Year	CO2e Intensity Factor	Fleet CO2e EF	Change in carbon intensity from previous year	Change in Fleet EF from previous year
	lb CO2e/MWh	metric ton/mi	%	%
2056	110	2.78E-04	0%	0%
2057	110	2.78E-04	0%	0%

Notes:

[1] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[2] Approximation of the decrease in vehicle emission factors over time, based on San Francisco fleet-average emission factors from 2020-2050. Assumes no change after 2050, since EMFAC2017 does not project past 2050.

Abbreviations:

CO_2e - carbon dioxide equivalents

EF - emission factor

lb - pound

mi - mile

MWh - megawatt-hour

Table Ops-6. Project Operational CO_2e Emissions by Year
3333 California St AB900
San Francisco, California

Year	CO_2e (MT/yr)[3]											
	Area	Energy		Mobile[2]	Waste	Water		Stationary Source[4]	Construction	Solar Reductions	Vegetation Reduction	Total
		Electricity[1]	Natural Gas			Treatment	Transportation					
2020	--	--	--	--	--	--	--	--	541	0	0	541
2021	--	--	--	--	--	--	--	--	733	0	0	733
2022	4	74	65	233	2	4	2	--	732	-45	0	1,071
2023	14	245	235	761	7	13	8	9	752	-56	0	1,988
2024	20	334	347	1,019	10	19	11	28	564	-55	0	2,297
2025	21	367	369	1,286	13	20	11	28	664	-256	0	2,522
2026	27	664	529	3,408	36	27	14	28	277	-252	0	4,759
2027	29	681	567	3,412	37	29	15	28	8	-290	-13	4,504
2028	29	662	568	3,339	37	29	15	28	--	-284	-13	4,410
2029	29	641	568	3,271	37	29	14	28	--	-279	-13	4,326
2030	29	620	568	3,211	37	29	14	28	--	-273	-13	4,251
2031	29	602	568	3,159	37	29	13	28	--	-268	-13	4,184
2032	29	583	568	3,112	37	29	13	28	--	-264	-13	4,123
2033	29	565	568	3,072	37	29	12	28	--	-259	-13	4,069
2034	29	546	568	3,037	37	29	12	28	--	-254	-13	4,021
2035	29	528	568	3,008	37	29	12	28	--	-249	-13	3,977
2036	29	510	568	2,982	37	29	11	28	--	-244	-13	3,937
2037	29	491	568	2,960	37	29	11	28	--	-240	-13	3,901
2038	29	473	568	2,941	37	29	10	28	--	-235	-13	3,868
2039	29	454	568	2,926	37	29	10	28	--	-230	-13	3,839
2040	29	436	568	2,913	37	29	10	28	--	-225	-13	3,812
2041	29	417	568	2,902	37	29	9	28	--	-220	-13	3,787
2042	29	399	568	2,893	37	29	9	28	--	-215	-13	3,764
2043	29	381	568	2,885	37	29	8	28	--	-211	-13	3,742
2044	29	362	568	2,879	37	29	8	28	--	-206	-13	3,722
2045	29	344	568	2,874	37	29	8	28	--	-201	-13	3,702
2046	29	325	568	2,868	37	29	7	28	--	-196	-13	3,683
2047	29	307	568	2,863	37	29	7	28	--	-191	0	3,677
2048	29	288	568	2,859	37	29	6	28	--	-187	0	3,658
2049	29	270	568	2,855	37	29	6	28	--	-182	0	3,641
2050	29	252	568	2,853	37	29	6	28	--	-177	0	3,625
2051	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2052	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2053	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2054	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2055	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2056	29	*252*	*568*	2,853	*37*	*29*	*6*	*28*	--	-177	0	3,625
2057	29	252	568	2,853	37	29	6	28	--	-177	0	3,625

Notes:

[1] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[2] Approximation of the decrease in vehicle emission factors over time, based on San Francisco fleet-average emission factors from 2020-2050. Assumes no change after 2050, since EMFAC2017 does not project past 2050.

[3] Assume all buildings become operational as soon as phase is constructed, based on percent of operational land uses by Phase as shown in Table Ops-16. The only changes in emissions are due to transportation and electricity becoming cleaner.

[4] Assumes generator operational with phase 2

Abbreviations:

AB - Assembly Bill
CARB - California Air Resources Board
CO_2e - carbon dioxide equivalent
EMFAC - CARB Emissions Factor model
g - gram
lb - pound
mi - mile
MWh - megawatt-hour
MT - metric ton
RPS - Renewables Portfolio Standard

Table Ops-7. Project Variant Operational CO_2e Emissions by Year
3333 California St AB900
San Francisco, California

Year	CO_2e (MT/yr)[3]											
	Area	Energy		Mobile[2]	Waste	Water		Stationary Source	Construction	Solar Reductions	Vegetation Reduction	Total
		Electricity[1]	Natural Gas			Treatment	Transportation					
2020	--	--	--	--	--	--	--	--	541	0	0	541
2021	--	--	--	--	--	--	--	--	733	0	0	733
2022	3.8	68	58	238	2	3.5	2.1	--	732	-45	0	1,063
2023	14	225	209	774	6	12	7	9	752	-56	0	1,953
2024	20	304	309	1,033	8	18	11	28	564	-55	0	2,242
2025	22	346	344	1,305	11	20	11	28	664	-256	0	2,496
2026	37	702	603	3,467	31	34	18	28	277	-252	0	4,946
2027	39	716	637	3,470	32	36	19	28	8	-290	-13	4,682
2028	39	695	638	3,396	32	36	18	28	--	-284	-13	4,585
2029	39	673	638	3,326	32	36	18	28	--	-279	-13	4,498
2030	39	651	638	3,266	32	36	17	28	--	-273	-13	4,421
2031	39	632	638	3,212	32	36	17	28	--	-268	-13	4,352
2032	39	612	638	3,165	32	36	16	28	--	-264	-13	4,290
2033	39	593	638	3,125	32	36	16	28	--	-259	-13	4,235
2034	39	574	638	3,089	32	36	15	28	--	-254	-13	4,184
2035	39	554	638	3,059	32	36	15	28	--	-249	-13	4,139
2036	39	535	638	3,033	32	36	14	28	--	-244	-13	4,098
2037	39	516	638	3,010	32	36	14	28	--	-240	-13	4,060
2038	39	496	638	2,991	32	36	13	28	--	-235	-13	4,026
2039	39	477	638	2,975	32	36	13	28	--	-230	-13	3,995
2040	39	458	638	2,962	32	36	12	28	--	-225	-13	3,967
2041	39	438	638	2,951	32	36	12	28	--	-220	-13	3,941
2042	39	419	638	2,942	32	36	11	28	--	-215	-13	3,917
2043	39	399	638	2,934	32	36	10	28	--	-211	-13	3,894
2044	39	380	638	2,928	32	36	10	28	--	-206	-13	3,872
2045	39	361	638	2,923	32	36	9	28	--	-201	-13	3,852
2046	39	341	638	2,917	32	36	9	28	--	-196	-13	3,832
2047	39	322	638	2,912	32	36	8	28	--	-191	0	3,824
2048	39	303	638	2,907	32	36	8	28	--	-187	0	3,805
2049	39	283	638	2,904	32	36	7	28	--	-182	0	3,786
2050	39	264	638	2,902	32	36	7	28	--	-177	0	3,769
2051	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2052	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2053	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2054	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2055	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2056	39	*264*	*638*	2,902	*32*	*36*	*7*	*28*	--	-177	0	3,769
2057	39	264	638	2,902	32	36	7	28	--	-177	0	3,769

Notes:

[1] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[2] Approximation of the decrease in vehicle emission factors over time, based on San Francisco fleet-average emission factors from 2020-2050. Assumes no change after 2050, since EMFAC2017 does not project past 2050.

[3] Assume all buildings become operational as soon phase is constructed, based on percent of operational land uses by Phase as shown in Table Ops-16.. The only changes in emissions are due to transportation and electricity becoming cleaner.

[4] Assumes generator operational with phase 2.

Abbreviations:

AB - Assembly Bill
CARB - California Air Resources Board
CO_2e - carbon dioxide equivalent
EMFAC - CARB Emissions Factor model
g - gram
lb - pound
mi - mile
MWh - megawatt-hour
MT - metric ton
RPS - Renewables Portfolio Standard

Table Ops-8. Energy and Water Use Values
3333 California St AB900
San Francisco, California

Scaled Building Energy Use (kBTU/year)[1]

Building Type	Project Case		Project Variant	
	Natural Gas	Electricity	Natural Gas	Electricity
Apartments	9,289,299	8,968,899	11,023,050	10,642,850
Day-Care Center	96,402	278,149	96,139	277,392
Parking Structure	0	5,374,715	0	5,454,439
General Office Building	330,377	708,129	0	0
Parking Lot	0	0	0	0
Strip Mall	922,059	1,853,528	827,940	1,664,329
Total (kBTU/yr)	**10,638,137**	**17,183,420**	**11,947,129**	**18,039,010**

Water Use and Electricity for Water Use[2]

Type	Water				Electricity to Supply, Treat, and Distribute Water			
	Project Case		Project Variant		Project		Project Variant	
	Indoor (gal)	Outdoor (gal)	Indoor (gal)	Outdoor (gal)	kWh/year	Kwh/gal	kWh/year	Kwh/gal
Commercial	422,000	0	229,000	0	2,280	0.0054	1,238	0.0054
Residential	17,125,000	0	22,398,000	0	92,663	0.0054	121,194	0.0054
HVAC/Cooling	1,995,000	0	1,995,000	0	10,795	0.0054	10,795	0.0054
Landscape/Irrigation	0	1,626,000	0	1,626,000	5,689	0.0035	5,689	0.0035
Total	**19,542,000**	**1,626,000**	**24,622,000**	**1,626,000**	**111,427**	**-**	**138,916**	**-**

Distributing Water Use for CalEEMod Land Uses[3]

Land Use Sub-Type	CalEEMod Default Indoor Water Use	Project Case				Project Variant			
	(gal/land use size/year)	Land Use	Land Use (sq ft)	Indoor (gal/year)	Outdoor (gal/year)	Land Use	Land Use (sq ft)	Indoor (gal/year)	Outdoor (gal/year)
Apartments (DU)	65,154	558	824,691	18,868,788	0	744	978,611	24,271,899	0
Open Space (Acres)	0	5.42	236,000	0	1,626,000	5.42	236,000	-	1,626,000
Day-Care Center (ksf)	42,890	14.69	14,690	50,720	0	14.65	14,650	62,087	
General Office Building (ksf)	177,734	49.999	49,999	382,990	0	0	0	0	0
Strip Mall (ksf)	74,073	54.117	54,117	239,502	0	48.593	48,593	288,014	0
Total	-	-	-	**19,542,000**	**1,626,000**	**-**	**-**	**24,622,000**	**1,626,000**

Notes:

[1] From 3333 California CEQA Energy Inputs, Arup (January 2018), Tables 10 and 11, including energy conservation measures. CEQA Energy Inputs is supporting information for the Energy Assessment.

[2] From 3333 California CEQA Energy Inputs, Arup (January 2018), Tables 4 and 5. CEQA Energy Inputs is supporting information for the Energy Assessment.

[3] Water use is distributed among land uses on a square footage basis for CalEEMod purposes. The total water use is from San Francisco Water Power Sewer's Water Supply Assessment (June 2017) which is summarized in the Energy Assessment.

Abbreviations:

DU - dwelling units
gal - gallon
kBTU - thousand British Thermal Units
sq ft - square feet

Table Ops-9. GHG Emissions Reductions from Solar Energy
3333 California St AB900
San Francisco, California

Energy Assessment Solar Data by Building and Phase[1]

Building	Proposed Total Solar Equipment Area (sqft)	Estimated PV Energy Output (kBTU/year)	Estimated Solar Hot Water Energy Output (kBTU/year)	Construction Phase
Center Building A	0	0	0	2
Center Building B	2,597	180,864	82,000	2
Plaza A Building	12,190	795,497	380,000	3
Plaza B Building	11,812	828,163	384,000	3
Walnut Building	19,771	1,397,159	635,000	3
Masonic Building	0	0	0	1
Euclid Building	9,036	638,342	289,000	1
Laurel Duplexes	6,384	394,514	207,000	4
Mayfair Building	3,550	251,107	107,000	4
Total	**65,340**	**4,485,646**	**2,084,000**	

Year-By-Year Reductions due to Solar

Year	CO_2e Intensity Factor (lb CO_2e/MWh)[2]	Solar PV Reductions (MT)	CO_2e Intensity Factor NG (lb CO_2e/kBTU)[3]	Solar Heating Reductions (MT)	Latest completed Phase[4]
2020	363	0	0.118	0	-
2021	354	0	0.118	0	-
2022	345	-29	0.118	-15	1
2023	335	-37	0.118	-20	2
2024	326	-36	0.118	-20	2
2025	317	-162	0.118	-95	3
2026	308	-157	0.118	-95	3
2027	299	-178	0.118	-111	4
2028	290	-173	0.118	-111	4
2029	281	-167	0.118	-111	4
2030	271	-162	0.118	-111	4
2031	263	-157	0.118	-111	4
2032	255	-152	0.118	-111	4
2033	247	-147	0.118	-111	4
2034	239	-143	0.118	-111	4
2035	231	-138	0.118	-111	4
2036	223	-133	0.118	-111	4
2037	215	-128	0.118	-111	4
2038	207	-123	0.118	-111	4
2039	199	-119	0.118	-111	4
2040	191	-114	0.118	-111	4
2041	183	-109	0.118	-111	4
2042	175	-104	0.118	-111	4
2043	167	-99	0.118	-111	4
2044	159	-95	0.118	-111	4
2045	150	-90	0.118	-111	4
2046	142	-85	0.118	-111	4
2047	134	-80	0.118	-111	4
2048	126	-75	0.118	-111	4
2049	118	-70	0.118	-111	4

Year	CO_2e Intensity Factor (lb CO_2e/MWh)[2]	Solar PV Reductions (MT)	CO_2e Intensity Factor NG (lb CO_2e/kBTU)[3]	Solar Heating Reductions (MT)	Latest completed Phase[4]
2050	110	-66	0.118	-111	4
2051	110	-66	0.118	-111	4
2052	110	-66	0.118	-111	4
2053	110	-66	0.118	-111	4
2054	110	-66	0.118	-111	4
2055	110	-66	0.118	-111	4
2056	110	-66	0.118	-111	4
2057	110	-66	0.118	-111	4

Notes:

[1] From SWCA's Energy Assessment (July 2018), Table 10.

[2] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[3] CO_2e intensity factor for natural gas is from CalEEMod Appendix D.

[4] The solar for each building is assumed to become active when the relevant Phase is complete.

Abbreviations:

CalEEMod - California Emissions Estimator Model
CO_2e - carbon dioxide equivalents
kBTU - thousand British Thermal Units
lb - pound
MT - metric ton
MWh - megawatt-hour
sqft - square feet

Table Ops-10. Energy Emissions Year-by-Year
3333 California St AB900
San Francisco, California

Year	CO2e Intensity Factor[1]		Project Case[2]				Project Variant[2]			
	Electricity	Natural Gas	Electricity Use[3]	Natural Gas Use[3]	Electricity Emissions	Natural Gas Emissions	Electricity Use[3]	Natural Gas Use[3]	Electricity Emissions	Natural Gas Emissions
	lb CO2e/MWh	lb CO2e/kBTU	MWh	kBTU	MT CO2e/year		MWh	kBTU	MT CO2e/year	
2020	363	0.118	0	0	0	0	0	0	0	0
2021	354	0.118	0	0	0	0	0	0	0	0
2022	345	0.118	473	1,224,705	74	65	436	1,092,913	68	58
2023	335	0.118	1,612	4,393,180	245	235	1,478	3,917,878	225	209
2024	326	0.118	2,255	6,498,974	334	347	2,055	5,791,991	304	309
2025	317	0.118	2,550	6,900,308	367	369	2,405	6,440,318	346	344
2026	308	0.118	4,754	9,905,647	664	529	5,027	11,295,228	702	603
2027	299	0.118	5,027	10,614,055	681	567	5,278	11,925,697	716	637
2028	290	0.118	5,036	10,638,137	662	568	5,287	11,947,129	695	638
2029	281	0.118	5,036	10,638,137	641	568	5,287	11,947,129	673	638
2030	271	0.118	5,036	10,638,137	620	568	5,287	11,947,129	651	638
2031	263	0.118	5,036	10,638,137	602	568	5,287	11,947,129	632	638
2032	255	0.118	5,036	10,638,137	583	568	5,287	11,947,129	612	638
2033	247	0.118	5,036	10,638,137	565	568	5,287	11,947,129	593	638
2034	239	0.118	5,036	10,638,137	546	568	5,287	11,947,129	574	638
2035	231	0.118	5,036	10,638,137	528	568	5,287	11,947,129	554	638
2036	223	0.118	5,036	10,638,137	510	568	5,287	11,947,129	535	638
2037	215	0.118	5,036	10,638,137	491	568	5,287	11,947,129	516	638
2038	207	0.118	5,036	10,638,137	473	568	5,287	11,947,129	496	638
2039	199	0.118	5,036	10,638,137	454	568	5,287	11,947,129	477	638
2040	191	0.118	5,036	10,638,137	436	568	5,287	11,947,129	458	638
2041	183	0.118	5,036	10,638,137	417	568	5,287	11,947,129	438	638
2042	175	0.118	5,036	10,638,137	399	568	5,287	11,947,129	419	638
2043	167	0.118	5,036	10,638,137	381	568	5,287	11,947,129	399	638
2044	159	0.118	5,036	10,638,137	362	568	5,287	11,947,129	380	638
2045	150	0.118	5,036	10,638,137	344	568	5,287	11,947,129	361	638
2046	142	0.118	5,036	10,638,137	325	568	5,287	11,947,129	341	638
2047	134	0.118	5,036	10,638,137	307	568	5,287	11,947,129	322	638
2048	126	0.118	5,036	10,638,137	288	568	5,287	11,947,129	303	638
2049	118	0.118	5,036	10,638,137	270	568	5,287	11,947,129	283	638
2050	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2051	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2052	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2053	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2054	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2055	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2056	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638
2057	110	0.118	5,036	10,638,137	252	568	5,287	11,947,129	264	638

Notes:

[1] Uses a linear interpretation between the electricity intensity factors derived in Table Ops-3.

[2] Does not include the benefits of solar photovoltaics or solar water heating. These are shown in Table Ops-9.

[3] While construction is underway, energy use is based on the percent of operational land uses by Phase as shown in Table Ops-16.

Abbreviations:

CO_2e - carbon dioxide equivalents
EF - emission factor
lb - pound
kBTU - thousand British Thermal Units
MT - metric ton
MWh - megawatt-hour

Table Ops-11. Wastewater Treatment Types and Electricity Intensity
3333 California St AB900
San Francisco, California

Wastewater Electricity Intensity

County	Electricity to Treat Wastewater (kWh/million gal)[1]
San Francisco	1,911

Wastewater Treatment Types[2]

County	Septic Tank	Aerobic	Anaerobic, Facultative Lagoons	Anaerobic, Combustion of Gas	Anaerobic, Cogeneration of Gas
San Francisco	10.33%	87.46%	2.21%	100%	0%

Wastewater Treatment Direct Emission Factors[3]

Wastewater Treatment Type	CO_2 Biogenic, ton/gal	CO_2 Non-Biogenic, ton/gal	CH_4, ton/gal	N_2O, ton/gal
Septic	0	0	2.50E-07	8.48E-10
Aerobic	3.90E-07	0	1.34E-09	8.48E-10
Anaerobic Facultative	3.90E-07	0	4.02E-07	8.48E-10
Digester Burn	0	0	0	0
Digester Cogen	0	0	0	0

Notes:

[1] Water Electricity Intensity from Table 9.2 of Appendix D of the CalEEMod User's Guide.
[2] Water Treatment Types from Table 9.3 of Appendix D of the CalEEMod User's Guide.
[3] Wastewater Treatment Direct Emission Factors from Table 9.4 of Appendix D of the CalEEMod User's Guide.

Abbreviations:

CalEEMod - California Emissions Estimator Model
CH_4 - methane
CO_2 - carbon dioxide
gal - gallon
kWh - kilowatt-hours
N_2O - nitrogen oxides

Table Ops-12. Water Treatment Emissions
3333 California St AB900
San Francisco, California

Land Use	Project Case				Project Variant			
	Septic Tank Direct Emissions	**Aerobic Direct Emissions**	**Facultative Lagoon Direct Emissions**	**Total Treatment Emissions**	**Septic Tank Direct Emissions**	**Aerobic Direct Emissions**	**Facultative Lagoon Direct Emissions**	**Total Treatment Emissions**
	MT CO2e/year							
Apartments (DU)	11.51	10.12	4.04	25.68	14.81	13.02	5.20	33.04
Day-Care Center (ksf)	0.03	0.03	0.01	0.07	0.04	0.03	0.01	0.08
Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Office Building (ksf)	0.23	0.21	0.08	0.52	0.00	0.00	0.00	0.00
Strip Mall (ksf)	0.15	0.13	0.05	0.33	0.18	0.15	0.06	0.39
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Open Space (Acres)	0.99	0.87	0.35	2.21	0.99	0.87	0.35	2.21
Total	**12.92**	**11.36**	**4.54**	**28.81**	**16.02**	**14.08**	**5.63**	**35.73**

Notes:

[1] Treatment factors are shown in Table Ops-11.

[2] Water usage is shown in Table Ops-8.

Abbreviations:

CO_2e - carbon dioxide equivalents

DU - dwelling units

ksf - thousand square feet

MT - metric tons

Table Ops-13. Water Emissions Year-by-Year
3333 California St AB900
San Francisco, California

Year	CO2e Intensity Factor	Project Case			Variant		
		Electricity Consumption[1]	Distribution Emissions	Treatment Emissions[2]	Electricity Consumption[1]	Distribution Emissions	Treatment Emissions[2]
	lb CO_2e/MWh	MWh	MT CO_2e		MWh	MT CO_2e	
2020	363	0	0	0	0	0	0
2021	354	0	0	0	0	0	0
2022	345	14	2.2	3.6	13	2.1	3.5
2023	335	50	7.6	13	48	7.4	12
2024	326	74	11	19	72	11	18
2025	317	78	11	20	79	11	20
2026	308	103	14	27	131	18	34
2027	299	111	15	29	139	19	36
2028	290	111	15	29	139	18	36
2029	281	111	14	29	139	18	36
2030	271	111	14	29	139	17	36
2031	263	111	13	29	139	17	36
2032	255	111	13	29	139	16	36
2033	247	111	12	29	139	16	36
2034	239	111	12	29	139	15	36
2035	231	111	12	29	139	15	36
2036	223	111	11	29	139	14	36
2037	215	111	11	29	139	14	36
2038	207	111	10	29	139	13	36
2039	199	111	10	29	139	13	36
2040	191	111	10	29	139	12	36
2041	183	111	9.2	29	139	12	36
2042	175	111	8.8	29	139	11	36
2043	167	111	8.4	29	139	10	36
2044	159	111	8.0	29	139	10	36
2045	150	111	7.6	29	139	9.5	36
2046	142	111	7.2	29	139	9.0	36
2047	134	111	6.8	29	139	8.5	36
2048	126	111	6.4	29	139	8.0	36
2049	118	111	6.0	29	139	7.4	36
2050	110	111	5.6	29	139	6.9	36
2051	110	111	5.6	29	139	6.9	36
2052	110	111	5.6	29	139	6.9	36
2053	110	111	5.6	29	139	6.9	36
2054	110	111	5.6	29	139	6.9	36
2055	110	111	5.6	29	139	6.9	36
2056	110	111	5.6	29	139	6.9	36
2057	110	111	5.6	29	139	6.9	36

Notes:

[1] Electricity use is calculated based on phased water use and usage factors from the Energy Assessment (SWCA, July 2018) and supporting Water Supply Assessment (San Francisco Water Power Sewer, June 2017) and CEQA Energy Inputs (Arup, 2018). While construction is underway, water use is based on the percent of operational land uses by Phase as shown in Table Ops-16. Electricity Usage Factors taken from the Energy Assessment are shown below.

Indoor (kwh/gal)	Outdoor (kwh/gal)
0.0054	0.0035

[2] Emissions from wastewater treatment are calculated in Table Ops-12.

Abbreviations:

CO_2e - carbon dioxide equivalents
lb - pounds
MT - metric tons
MWh - megawatt-hour

Table Ops-14. Waste Generation and Emissions
3333 California St AB900
San Francisco, California

Space Type	Project		Variant	
	Waste Generated	CO_2e Emissions[1]	Waste Generated	CO_2e Emissions[1]
	Cubic yards/day	MT/yr	Cubic yards/day	MT/yr
Residential	18.3	12.9	19.8	13.9
Commercial	34	23.9	25.5	17.9
Total	**52.5**	**36.8**	**45.3**	**31.8**

Land Use[2]	Total CO_2e (MT/yr)	
	Project	Variant
Apartments	13	14
Day-Care Center	3.0	4.1
Parking Structure	0	0
General Office Building	10	0
Parking Lot	0	0
Retail	11	14

Year	Total CO_2e (MT/yr)[3]	
	Project	Variant
2022	2.0	1.8
2023	6.9	6.1
2024	9.8	8.4
2025	13	11
2026	36	31
2027	37	32
2028	37	32

Notes:

[1] Total waste emissions are from CEQA Energy Inputs (ARUP, January 2018).

[2] Commercial waste generation was split by total land uses among daycare, office, and retail based on square footage.

[3] While construction is underway, waste is based on the percent of operational land uses by Phase as shown in Table Ops-16.

Abbreviations:

CO_2e - carbon dioxide equivalents

MT - metric tons

yr - year

Table Ops-15. GHG Emissions Sequestration from Vegetation
3333 California St AB900
San Francisco, California

Number of Net New Trees[1]	Units	Broad Species Class	Annual CO_2 accumulation per tree (MT CO_2/tree/year)[2]	Project GHG Sequestration (MT CO_2e)
162	Trees	Miscellaneous	-0.0354	-115
Number of Net New Acres[1]	**Units**	**Vegetation Land Use Subtype**	**Annual CO_2 accumulation per acre (MT CO_2/acre/year)[2]**	**Project GHG Sequestration (MT CO_2e)**
1.63	Acres	Grassland	-4.31	-140
			Total, Trees and Acres Covered	-255

Notes:

1. Number of net new trees from Project Description. Total number of trees - number of existing trees
2. From CalEEMod User's Guide Appendix A.
3. All vegetation types are assumed to have a growing period of 20 years.

Abbreviations:

CO_2e - carbon dioxide equivalents

MT - metric tones

Table Ops-16. Phased Land Use
3333 California St AB900
San Francisco, California

Land Use	Size Metric	Phase[1]					% Total in Phase[2]			
		Phase 1	Phase 2	Phase 3	Phase 4	All	Phase 1	Phase 2	Phase 3	Phase 4
Project Case										
Apartments	DU	196	190	128	44	558	35%	34%	23%	8%
Day-Care Center	ksf	0	0	14.69	0.00	14.69	0%	0%	100%	0%
Parking Structure	ksf	87.98	19.26	301.06	20.48	428.77	21%	4%	70%	5%
General Office Building	ksf	0	0	50.00	0.00	50	0%	0%	100%	0%
Parking Lot	ksf	3.936	2.51	3.82	0.58	10.84	36%	23%	35%	5%
Retail	ksf	4.287	0	49.83	0	54.12	8%	0%	92%	0%
Open Space	acre	1.42	1.35	2.19	0.46	5.42	26%	25%	40%	9%
Project Variant										
Apartments	DU	196	190	314	44	744	26%	26%	42%	6%
Day-Care Center	ksf	0	0	14.65	0.00	14.65	0%	0%	100%	0%
Parking Structure	ksf	87.98	19.26	307.42	20.48	435.13	20%	4%	71%	5%
General Office Building	ksf	0	0	-	0.00	0	-	-	-	-
Parking Lot	ksf	3.94	2.51	6.18	0.58	13.2	30%	19%	47%	4%
Retail	ksf	4.29	0	44.31	0	48.59	9%	0%	91%	0%
Open Space	acre	1.42	1.35	2.19	0.46	5.42	26%	25%	40%	9%

Notes:

[1] Land use totals and Phase descriptions provided by Project sponsor.

[2] Percent of total in Phase is used to quantify emissions at buildout of each Phase. Phases 1, 2, 3, and 4 are assumed to be operational in 2022, 2023, 2025, and 2027, respectively.

Abbreviations:

DU - dwelling units

ksf - thousand square feet

Table Ops-17. Area and Mobile Emissions by Phase
3333 California St AB900
San Francisco, California

Phase[1]	Operational Year	% Change in Mobile Emissions Factor[2]	Project		Variant	
			Area	Mobile	Area	Mobile
			CO_2e (MT/yr)[3]			
1	2022	--	3.8	233	3.8	238
1	2023	-2.81%	10	618	10	630
1	2024	-2.67%	10	602	10	613
1	2025	-2.82%	10	585	10	596
1	2026	-2.54%	10	570	10	580
1	2027	-2.39%	10	556	10	567
1	2028	-2.23%	10	544	10	554
2	2022	--	0	0	0	0
2	2023	-2.81%	3.3	143	3.3	144
2	2024	-2.67%	10	417	10	421
2	2025	-2.82%	10	406	10	409
2	2026	-2.54%	10	395	10	398
2	2027	-2.39%	10	386	10	389
2	2028	-2.23%	10	377	10	380
3	2022	--	0	0	0	0
3	2023	-2.81%	0	0	0	0
3	2024	-2.67%	0	0	0	0
3	2025	-2.82%	0.8	295	1.9	301
3	2026	-2.54%	6.7	2,443	17	2,488
3	2027	-2.39%	6.7	2,384	17	2,428
3	2028	-2.23%	6.7	2,331	17	2,374
4	2022	--	0	0	0	0
4	2023	-2.81%	0	0	0	0
4	2024	-2.67%	0	0	0	0
4	2025	-2.82%	0	0	0	0
4	2026	-2.54%	0	0	0	0
4	2027	-2.39%	2.2	85	2.2	86
4	2028	-2.23%	2.3	86	2.3	87

Notes:

[1] Operational year and fraction of operation in Table Ops-16.

[2] Mobile emissions change is shown in Table Ops-5.

[3] Area and mobile emissions from buildout year for each Phase are from CalEEMod outputs. Emissions from energy, water, waste, stationary sources, and reductions from solar and vegetation are shown in Tables Ops-7 and Ops-8.

Abbreviations:

CO_2e - carbon dioxide equivalents

MT - metric ton

yr - year

RAMBOLL

ENVIRONMENT & HEALTH

Via Electronic Mail

MEMORANDUM

To: Jing Ng, The Prado Group

From: Michael Keinath
Shaena Ulissi
Ashley Wheeler

Subject: Relocated Greenhouse Gas Emissions for 3333 California St AB900

December 5, 2018

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In support of the AB900 Application for the mixed-use development project located at 3333 California Street in San Francisco, California (herein referred to as the "Proposed Project" or "Project"), Ramboll US Corporation (Ramboll) quantified both direct and indirect greenhouse gas (GHG) emissions associated with the Proposed Project's and Project Variant's operation. That analysis, referred to hereafter as the "GHG Report", is available as Appendix E: Greenhouse Gas Emissions Analysis.[1]

The California Air Resources Board ("ARB") requested additional analysis and revisions to add to the Project and Project Variant emissions the mobile emissions from existing UCSF and childcare staff and visitors who may relocate to other UCSF campuses. ARB reasons that given that a portion of the existing staff and visitors will continue to commute by car after relocation, their emissions should be accounted for in the AB900 analysis.[2] This memorandum describes methodology and summarizes data used to determine the GHG emissions for relocated 3333 California Street tenants.

RELOCATED TRIPS

Data from the UCSF Long-Range Development Plan Environmental Impact Report (LRDP EIR) and the San Francisco Planning 2018 Workbook Mode Share for each campus location have been used to calculate expected vehicle trips for relocated staff and childcare students. Kittelson & Associates, Inc reviewed the 2014 LRDP EIR assumptions on mode share and provided updated data, which is included as **Appendix A**. The weighted average external vehicle mode split is slightly higher using the 2018 dataset.

[1] Ramboll, August 2018, AB900 Analysis. Available at: http://opr.ca.gov/ceqa/california-jobs.html. Accessed: December 4, 2018.

[2] A search of AB900 documentation concludes that several other approved AB900 projects did not account for the possibility that their existing tenants would continue to cause mobile emissions after relocation and took credit for the full reduction in existing emissions.

The number of people who will relocate includes all faculty, staff, and childcare students.[3] The total number of people have been distributed to the other UCSF campuses proportionally based on the anticipated faculty/staff population changes in the UCSF LRDP EIR. The number and types of visitors to the existing site is unknown, and therefore it would be speculative to estimate a number or destination for relocated visitors.

Table 1 shows the assumptions for vehicle trip generation for relocated emissions. As shown in Table 1, total weekday vehicle trips per day for the relocated site are lower than the vehicle trips per day for the existing site as presented in the GHG Report, Table Ops-1a.

RELOCATED OPERATIONAL EMISSIONS

This section describes how the information derived above is used to quantify the relocated emissions.

CalEEMod® was run to calculate the mobile emissions from the relocated staff and visitors. The weekday vehicle trips for all campuses were summed by population type. For purpose of this calculation, the land use parameters from existing conditions run were used to represent the land uses of the relocated emissions, although the density of buildings and land use subtypes may differ. The resulting CalEEMod® inputs are shown in **Table 2.** The trip lengths and types used were CalEEMod® defaults to be consistent with the existing conditions and Project runs. CalEEMod® outputs are included as **Appendix B**.

Relocated mobile emissions decrease over time as the vehicle fleet becomes cleaner. The year-by-year mobile emissions are shown in **Table 3**. These incorporate the same mobile reductions as calculated in the GHG Report, **Table Ops-5.**

OFFSETS WITH RELOCATED EMISSIONS

The year-by-year summary comparison of the existing condition to the Proposed Project plus relocated emissions and Project Variant plus relocated emissions is shown in **Table 3**. This assumes that all existing tenants relocate as soon as construction of Phase 1 begins. Detailed yearly GHG emissions (not including relocated emissions) for construction and concurrent operations for the Project and Project Variant are presented in the GHG Report, **Tables Ops-6** and **Ops-7** of Appendix 1. Project and Project Variant emissions would begin to exceed existing condition emissions in 2026. From 2020 to 2025, the Project and Project Variant would not be fully operational and emissions from phases 1 and 2 of operation plus relocated emissions would be below existing condition emissions. The added operation of phase 3 in 2026 would increase the Project and Project Variant emissions above existing condition emissions.

To determine the offsets commitments by Phase, the relocated emissions by year shown in **Table 3** would be added to the Project or Project Variant emissions by phase shown in Attachment I: GHG Emissions by Phase for 3333 California St AB900. The project sponsor commits to measures to ensure there will be no net additional GHG emissions associated with the Project or Project Variant, as described in Attachment H: 3333 California Street Project Greenhouse Gas Emissions Offset Commitment Approach.

[3] The UCSF LRDP EIR (page 3-56) states: "If UCSF were to vacate the Laurel Heights campus site, relocation of the 1,200 employees there would likely occur in phases as programs are consolidated at other sites. Therefore, the 1,200 employees at the Laurel Heights campus site are included in the projected population of the 2014 LRDP at UCSF's major campus sites at Parnassus Heights, Mission Bay, Mount Zion, and Mission Center, and the environmental impacts of projected UCSF population growth at those sites are evaluated in the 2014 LRDP EIR." Source: UCSF. https://www.ucsf.edu/sites/default/files/3_Project%20Description.pdf. Accessed: December 5, 2018.

In addition, we have accounted for the maximum licensed capacity of 116 childcare students to relocate from the existing University Child Care Center at Laurel Heights. Source: UCSF. https://campuslifeservices.ucsf.edu/familyservices/services/child_care_centers/laurel_heights_child_care. Accessed: December 4, 2018.

TABLES

Table 1. Trip Rates - UCSF Other Campuses
3333 California St AB900
San Francisco, California

Existing UCSF Staff and Childcare Students, Relocated to Other Campuses[1]

Campus	Land Use Type	Number of People[1,2]	Average Daily External Person-Trips[3]	Mode Split							External Trip Vehicle Mode Split	Weekday Vehicle Trips
			trips/day	Drive Alone	Drop-Off/Taxi	Carpool/ Vanpool	Public Transit	UCSF Shuttle	Bike/ Motorcycle	Walk	%	trips/day
Parnassus Heights	Office	0	0	48%	2%	20%	4%	19%	1%	6%	63%	0
Mission Bay/Mission Center	Office	1,249	2,169	29%	11%	9%	18%	13%	3%	17%	56%	1,223
Mount Zion	Office	67	117	26%	11%	12%	18%	13%	3%	17%	55%	64
Total	-	1,316	2,286								56%	**1,287**

Notes:

[1] The UCSF LRDP EIR (page 3-56) states: "If UCSF were to vacate the Laurel Heights campus site, relocation of the 1,200 employees there would likely occur in phases as programs are consolidated at other sites. Therefore, the 1,200 employees at the Laurel Heights campus site are included in the projected population of the 2014 LRDP at UCSF's major campus sites at Parnassus Heights, Mission Bay, Mount Zion, and Mission Center, and the environmental impacts of projected UCSF population growth at those sites are evaluated in the 2014 LRDP EIR."
In addition, we have accounted for the maximum licensed capacity of 116 childcare students to relocate from the existing University Child Care Center at Laurel Heights.

[2] The total number of people have been proportionally distributed to the other UCSF campuses based on the anticipated faculty/staff population changes in the UCSF LRDP EIR Chapters 6, 7, 8, and 9, which shows the following:
- Parnassus Heights: (-55) faculty/staff: net decrease under LRDP, therefore 0% of 3333 was assumed to relocate here
- Mount Zion: +649 faculty/staff: 5% of total LRDP growth, therefore 5% of 3333 assumed to relocate here
- Mission Bay: +11,542 faculty/staff; and Mission Center: +490 faculty/staff: 95% of total LRDP growth, therefore 95% of 3333 assumed to relocate here

[3] Person-trips are calculated consistent with the UCSF LRDP EIR, Appendix G. This assumes 10% absenteeism for staff, internal trip rates of 10% for staff and 50% for childcare children, and a daily person trip rate of 2.23 for staff and 2.04 for daycare children.

[4] Mode splits as provided by Kittelson and Associates (12/4/2018) based on the San Francisco Planning 2018 Workbook Mode Share for each campus location for office land use type. Office is assumed to most accurately represent campus land uses, as there is no "institutional" land use trip data.

[5] Vehicle trips are calculated consistent with the UCSF LRDP EIR, Appendix G, Table 3-6: Drive Alone trips + (Drop-off trips x 2) + (Carpool trips /2) + (Vanpool trips/10) + (UCSF Shuttle/15). Since carpool and vanpool trips are combined, this calculation conservatively assumes (carpool + vanpool)/2.

Abbreviations:

EIR - Environmental Impact Report
LRDP - Long-Range Development Plan
UCSF - University of California, San Francisco

References:

Kittelson & Associates. 2018. December 4. Attached as Appendix A.

UCSF LRDP Final EIR. 2014. Available at: https://www.ucsf.edu/content/lrdp-environmental-impact-report-downloads. Accessed: December 5, 2018.

UCSF University Child Care Center at Laurel Heights. Available at: https://campuslifeservices.ucsf.edu/familyservices/services/child_care_centers/laurel_heights_child_care. Accessed: December 4, 2018.

Table 2. Trip Rates for Relocated Emissions - CalEEMod Inputs
3333 California St AB900
San Francisco, California

Land Use Data[1]		CalEEMod Defaults[2]			Calculated Rates[3]			
Land Use Sub-Type	Size	Weekday Trip Rate	Saturday Trip Rate	Sunday Trip Rate	Weekday Trip Counts	Weekday Trip Rate	Saturday Trip Rate	Sunday Trip Rate
	ksf	trips/ksf/day			trips/day	trips/ksf/day		
General Office Building	363.5	11.03	2.46	1.05	1,287	3.54	0.79	0.34

Notes:

[1] For purpose of this calculation, the land use totals from existing conditions run were used to represent the land uses of the relocated emissions, although in reality the density of buildings and land use subtypes may differ.

[2] CalEEMod version 2016.3.2 default trip rates for San Francisco County, urban setting.

[3] Weekday trip counts calculated in Table 1. Weekend trip rates estimated using ratio of CalEEMod default weekday to weekend rates.

Abbreviations:

ksf - thousand square feet

Table 3. Comparison of GHG Emissions between Project, Variant, Relocated, and Existing, 2020-2057
3333 California St AB900
San Francisco, California

Year	GHG Emissions (MT CO_2e/year)						
	Existing Facilities	Relocated Emissions	Project Operational Emissions	Difference (Project Plus Relocated Minus Existing)	Project Variant Operational Emissions	Difference (Variant Plus Relocated Minus Existing)	Construction Emissions
2020	3,873	976	0	-2,897	0	-2,897	541
2021	3,873	952	0	-2,921	0	-2,921	733
2022	3,873	927	340	-2,606	331	-2,615	732
2023	3,873	901	1,235	-1,736	1,201	-1,771	752
2024	3,873	877	1,733	-1,263	1,678	-1,318	564
2025	3,873	852	1,858	-1,163	1,832	-1,189	664
2026	3,873	831	4,481	1,439	4,669	1,626	277
2027	3,873	811	4,496	1,434	4,674	1,612	8
2028	3,873	793	4,410	1,330	4,585	1,505	--
2029	3,873	776	4,326	1,229	4,498	1,402	--
2030	3,873	762	4,251	1,140	4,421	1,311	--
2031	3,873	750	4,184	1,061	4,352	1,230	--
2032	3,873	739	4,123	990	4,290	1,156	--
2033	3,873	729	4,069	926	4,235	1,091	--
2034	3,873	721	4,021	869	4,184	1,033	--
2035	3,873	714	3,977	818	4,139	980	--
2036	3,873	708	3,937	772	4,098	933	--
2037	3,873	703	3,901	731	4,060	890	--
2038	3,873	698	3,868	694	4,026	852	--
2039	3,873	695	3,839	660	3,995	817	--
2040	3,873	691	3,812	630	3,967	786	--
2041	3,873	689	3,787	603	3,941	757	--
2042	3,873	687	3,764	578	3,917	731	--
2043	3,873	685	3,742	554	3,894	706	--
2044	3,873	683	3,722	532	3,872	683	--
2045	3,873	682	3,702	512	3,852	662	--
2046	3,873	681	3,683	491	3,832	640	--
2047	3,873	680	3,677	484	3,824	631	--
2048	3,873	679	3,658	464	3,805	610	--
2049	3,873	678	3,641	446	3,786	591	--
2050	3,873	677	3,625	429	3,769	573	--
2051	3,873	677	3,625	429	3,769	573	--
2052	3,873	677	3,625	429	3,769	573	--
2053	3,873	677	3,625	429	3,769	573	--
2054	3,873	677	3,625	429	3,769	573	--
2055	3,873	677	3,625	429	3,769	573	--
2056	3,873	677	3,625	429	3,769	573	--
2057	3,873	677	3,625	429	3,769	573	--
Total Gross Emissions				**22,822**	**--**	**27,820**	**4,273**

Notes:

[1] Where existing emissions are greater than operational plus relocated emissions, no credit has been taken in the "Total Gross Emissions" summation.

[2] Project and Project Variant emissions for 2020 through 2021 include only construction-related and relocated emissions. Project and Project Variant emissions for 2022 through 2027 include construction-related, relocated, and operational emissions. All construction emissions are considered to be a net increase for those analysis years and apply to both the Proposed Project and Project Variant.

Abbreviations:

CO_2e - carbon dioxide equivalents
MT - metric ton
GHG - greenhouse gas

APPENDIX A
MODE SHARE COMPARISONS

3333 California Street

UCSF Mode Share Comparison

UCSF LRDP Mode Share

Population Group	Drive Alone	Drop-Off/Taxi	Carpool/Vanpool	Public Transit	UCSF Shuttle	Bike/Motorcycle	Walk	All Modes
Parnassus Heights								
Staff	4%	2%	1%	18%	32%	16%	28%	101%
Patients and Visitors	24%	17%	14%	42%	0%	1%	1%	99%
Other Visitors	54%	8%	4%	20%	0%	1%	13%	100%
Child care	9%	70%	3%	8%	5%	2%	3%	100%
Residential	24%	4%	0%	17%	47%	3%	4%	99%
Total	**14%**	**6%**	**2%**	**21%**	**33%**	**9%**	**15%**	**100%**
Mission Bay								
Staff	33%	2%	6%	22%	22%	8%	8%	101%
Patients and Visitors	45%	5%	14%	26%	2%	1%	7%	100%
Other Visitors	71%	4%	9%	11%	0%	1%	4%	100%
Child care	9%	72%	2%	7%	7%	2%	1%	100%
Residential	37%	0%	1%	15%	36%	5%	7%	101%
Total	**38%**	**3%**	**8%**	**22%**	**16%**	**5%**	**8%**	**100%**
Mount Zion								
Staff	37%	4%	8%	26%	12%	6%	8%	101%
Patients and Visitors	39%	7%	23%	25%	0%	1%	5%	100%
Other Visitors	63%	4%	14%	15%	0%	2%	4%	102%
Total	**39%**	**6%**	**16%**	**25%**	**5%**	**3%**	**6%**	**100%**
Mission Center								
Staff	43%	1%	5%	27%	13%	7%	4%	100%
Other Visitors	100%	0%	0%	0%	0%	0%	0%	100%
Total	**46%**	**1%**	**5%**	**26%**	**13%**	**6%**	**3%**	**100%**

Source: Adavant Consulting, 2014. UCSF LRDP, 2014. Table 3-6: External Trips Mode of Travel Assumptions

Notes: Mode of travel percentages assumed for future travel conditions; percentages might not add to 100% due to rounding

3333 California Street

UCSF Mode Share Comparison

SF Planning - 2018 Workbook Mode Share

Location / Land Use	Drive Alone	Drop-Off/Taxi	Carpool/Vanpool	Public Transit	UCSF Shuttle	Bike	Walk	All Modes	**Notes** (2018 workbook relative to UCSF LRDP)
Parnassus Heights									- Auto (drive alone and carpool) mode shares are higher for Office and Retail uses relative to population groups - Auto mode share for residential land use is lower - Walk mode share is higher for all land uses
Office	48%	2%	20%	4%	19%	1%	6%	100%	
Retail - General	44%	1%	10%	16%	< 1%	1%	28%	100%	
n/a	-	-	-	-	-	-	-	-	
n/a	-	-	-	-	-	-	-	-	
Residential	17%	4%	22%	19%	< 1%	4%	34%	100%	
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0%**	
Mission Bay									- Auto (drive alone and carpool) mode shares are lower for all land uses relative to population groups - Walk mode share is higher for all land uses - Bike mode share is generally consistent
Office	29%	11%	9%	18%	13%	3%	17%	100%	
Retail - General	9%	1%	17%	12%	< 1%	3%	58%	100%	
n/a	-	-	-	-	-	-	-	-	
n/a	-	-	-	-	-	-	-	-	
Residential	20%	4%	19%	19%	< 1%	4%	34%	100%	
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0%**	
Mount Zion									- Auto (drive alone and carpool) mode shares are lower for all land uses relative to population groups - Walk mode share is higher for all land uses - Bike mode share is generally consistent
Office	26%	11%	12%	18%	13%	3%	17%	100%	
Retail - General	13%	1%	13%	12%	< 1%	3%	58%	100%	
n/a	-	-	-	-	-	-	-	-	
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0%**	
Mission Center *(same as Mission Bay because of location in Mission/Potrero District)*									- Auto (drive alone and carpool) mode shares are lower for all land uses relative to population groups - Transit use is lower for office land use relative to staff population group
Office	29%	11%	9%	18%	13%	3%	17%	100%	
Retail - General	9%	1%	17%	12%	< 1%	3%	58%	100%	
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0%**	

Source: Kittelson & Associates, Inc. 2018; SF Planning Travel Demand Distribution Application PM, 2018.

Notes: Mode of travel percentages presented for weekday PM peak hour for relevant land uses included in SF Planning's Travel Demand Workbook.

Parnassus Heights: District 8-Sunset; Placetype 3; TAZ 226

Mission Bay: District 4-Mission/Potrero; Placetype 2; TAZ 557

Mount Zion: District 3-Western Market; Placetype 2; TAZ 310

Mission Center: District 4-Mission/Potrero; Placetype 2; TAZ 590

3333 California Street

UCSF Mode Share Comparison

Mode Share Comparison - Percentage Point Difference, UCSF LRDP minus 2018 Workbook

Location / Land Use	Drive Alone	Drop-Off/Taxi	Carpool/Vanpool	Public Transit	UCSF Shuttle	Bike	Walk
Parnassus Heights							
Staff minus Office	-44%	0%	-19%	14%	13%	15%	22%
Patients/Visitors minus Retail	-20%	16%	4%	26%	-1%	0%	-27%
Residential minus Residential	7%	0%	-22%	-2%	46%	-1%	-30%
Mission Bay							
Staff minus Office	4%	-9%	-3%	4%	9%	5%	-9%
Patients/Visitors minus Retail	36%	4%	-3%	14%	1%	-2%	-51%
Residential minus Residential	17%	-4%	-18%	-4%	35%	1%	-27%
Mount Zion							
Staff minus Office	11%	-7%	-4%	8%	-1%	3%	-9%
Patients/Visitors minus Retail	26%	6%	10%	13%	-1%	-2%	-53%
Mission Center							
Staff minus Office	14%	-10%	-4%	9%	0%	4%	-13%
Patients/Visitors minus Retail	91%	-1%	-17%	-12%	-1%	-3%	-58%

Source: UCSF LRDP, 2014; Kittelson & Associates, Inc. 2018; SF Planning Travel Demand Distribution Application PM, 2018.

Notes:

A direct comparison cannot be made between the "population groups" in the UCSF LRDP table and the "land use" in the SF Planning 2018 Workbook table, with the exception of "residential". Values have been organized to make a best match; i.e., Staff & Office, Patients/Visitors & Retail.

APPENDIX B
CALEEMOD® OUTPUT

3333 CalSF Relocated Emissions - 2020

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	363.50	1000sqft	8.34	363,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	360.31	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated CO2 Intensity Factor

Land Use - For purpose of this calculation, the land use totals from existing conditions run were used to represent the land uses of the relocated emissions, although in reality the density of buildings and land use subtypes may differ.

Construction Phase - Construction not relevant.

Grading -

Architectural Coating -

Vehicle Trips - Trip rates based on data from SF Planning (2018), UCSF LRDP EIR (2014), and Kittselson & Associates (2018). Weekend trip rates estimated using ratio of CalEEMod default weekday to weekend rates. Default trip lengths/types.

Consumer Products -

Energy Use - Relocated mobile only

Landscape Equipment - Relocated mobile only

Water And Wastewater - Relocated mobile only

Solid Waste - Relocated mobile only

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	4.34	0.00
tblEnergyUse	NT24E	4.80	0.00
tblEnergyUse	NT24NG	1.01	0.00
tblEnergyUse	T24E	5.42	0.00
tblEnergyUse	T24NG	22.58	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	360.31
tblSolidWaste	SolidWasteGenerationRate	338.06	0.00
tblVehicleTrips	ST_TR	2.46	0.79
tblVehicleTrips	SU_TR	1.05	0.34
tblVehicleTrips	WD_TR	11.03	3.54
tblWater	IndoorWaterUseRate	64,606,217.40	0.00
tblWater	OutdoorWaterUseRate	39,597,359.05	0.00

2.0 Emissions Summary

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	6.5000e-003	6.5000e-003	2.0000e-005	0.0000	6.9300e-003

Energy											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile											0.0000	974.6517	974.6517	0.0433	0.0000	975.7342
Waste											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
Total											**0.0000**	**974.6582**	**974.6582**	**0.0433**	**0.0000**	**975.7411**

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	6.5000e-003	6.5000e-003	2.0000e-005	0.0000	6.9300e-003
Energy											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile											0.0000	974.6517	974.6517	0.0433	0.0000	975.7342
Waste											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
Total											**0.0000**	**974.6582**	**974.6582**	**0.0433**	**0.0000**	**975.7411**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	974.6517	974.6517	0.0433	0.0000	975.7342
Unmitigated											0.0000	974.6517	974.6517	0.0433	0.0000	975.7342

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	1,286.79	287.17	123.59	2,336,736	2,336,736
Total	1,286.79	287.17	123.59	2,336,736	2,336,736

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.607015	0.041018	0.191033	0.087570	0.015386	0.004865	0.027149	0.008727	0.004280	0.004624	0.006947	0.000926	0.000460

PRADO GROUP

October 22, 2018

Heather King, AICP
Air Pollution Specialist
Sustainable Communities Policy and Planning Section
Air Quality Planning and Science Division
California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812-2815

Subject: **3333 California Street Mixed-use Project, Case No. 2015-014208ENV**
Greenhouse Gas Emissions Offset Commitment Approach

Dear Ms. King,

The Applicant submitted the application seeking certification of the Project as an Environmental Leadership Development Project (ELDP) pursuant to AB 900.

The project has committed to meeting the requirements set forth in California Public Resources Code Section 21183 (c), which requires that the Project demonstrate that it will not result in any net greenhouse gas (GHG) emissions and in Public Resources Code Section 21180(b)(1), which requires the Project to achieve a 15 percent greater standard for transportation efficiency than comparable projects. The Applicant has committed to no net increase in construction and operation-related GHG emissions. Consistent with policy recommendations included in CARB's 2017 Climate Change Scoping Plan[1], while offsets are a potential way to mitigate GHG emissions, other options will continue to be explored as well to the extent feasible, with the following order of preference: (1) project design feature/on-site reduction measures; (2) off-site local reductions; (3) off-site regional reductions, and (4) voluntary offsets purchased and retired through an accredited registry, such as the American Climate Registry (ACR), Climate Action Reserve (CAR), and Verra (formerly the Verified Carbon Standard or VCS). To the extent offsets are used to mitigate GHG emissions, prior to issuance of the final Certificate of Occupancy for the first building constructed in each phase of the project that exceeds the existing emissions, the project sponsor or its successor shall enter into one or more contracts to purchase carbon credits issued by a recognized and reputable carbon registry, for the operational emissions attributable to that phase, which contract, together with any previous contracts, shall evidence the purchase of carbon credits in an amount sufficient to offset the remaining (after implementation of any identified, feasible project design feature/on-site reduction measures, off-site local reductions, or off-site regional reductions) operational emissions attributable to that phase over the analysis horizon of 30 years. The phases noted here are for

[1] Available at: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

GHG compliance purposes. Any changes to the actual order and phasing of the project construction would meet the standards for compliance based on the aggregate total phase emissions.

Prior to the issuance of grading permits for construction of each phase of the project, the project sponsor or its successor shall enter into one or more contracts to purchase carbon credits issued by a recognized and reputable carbon registry, for the construction emissions attributable to that phase, which contract, together with any previous contracts, shall evidence the purchase of carbon credits in an amount sufficient to offset the remaining construction emissions attributable to that phase.

Attachment E of the Project's AB 900 application contained a calculation of the net additional construction and operational GHG emissions associated with the Project. Attachment I: Greenhouse Gas Emissions by Phase summarizes the construction and operational emissions by phase. The Applicant will provide documentation to CARB and the Governor's office of any project design features/on-site reduction measures, off-site local reductions, or off-site regional reductions used to mitigate GHG emissions, and shall promptly submit copies of any executed contracts for purchased carbon credits to CARB and to the Governor's office.

Any identified project design features/on-site reduction measures, off-site local reductions, or off-site regional reductions used to mitigate GHG emissions and any commitments to enter into contracts to offset net additional GHG emissions will be incorporated as conditions of project approval under the Public Resources Code sec. 21183(e), which shall be binding and enforceable by the lead agency. Prior to building occupancy, documentation shall be submitted and approved by the City that corroborates the estimated solar PV output and solar hot water energy output or equivalent reductions that will be achieved by the Project or Project Variant. Enforcement of compliance will be outlined in the terms of the Development Agreement between the City of San Francisco and the Applicant.

Sincerely,

Laurel Heights Partners LLC
a Delaware limited liability company

By: 3333 California LP
a Delaware limited liability partnership
its managing member

By: PSKS LH LLC
a Delaware limited liability company
its general partner

By: Prado LH LLC,
a California limited liability company
its managing member

By: _____
Daniel J. Safier
Manager