padre
associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

August 16, 2023
Project No. 2202-2051

Lotus Management Company
6030 Hellyer Avenue, Suite 150
San Jose, CA 95138

Attention: Mr. Jiten Patel

Subject: Revised Letter Report, Air Quality and Greenhouse Gas Emissions Analysis for the Proposed Holiday Inn Express Project, Roemer Court, Santa Maria, California

Dear Mr. Patel:

Padre Associates, Inc. (Padre), has prepared this letter-report documenting the air quality and greenhouse gas emissions analysis for the proposed remodeling project (Proposed Project) at Roemer Court, Santa Maria, California (Project Site). The analysis has been prepared in accordance with the Santa Barbara County Air Pollution Control District's (SBCAPCD) Scope and Content of Air Quality Sections document (SBCAPCD, 2022) and the Santa Barbara County Department of Planning and Development (SBCDPD) Environmental Thresholds and Guidelines Manual (SBCDPD, 2021).

OVERVIEW

The purpose of this analysis is to estimate the criteria pollutants and greenhouse gas (GHG) emissions that would be emitted by the Proposed Project and compare the estimate to the SBCAPCD air quality and greenhouse gas regulations. In a letter dated April 22, 2022, in response to Lotus Management's General Plan Amendment/Zone Change and Planned Development Permit application, the City of Santa Maria (City) Community Development Department (CDD) requested that an air quality and greenhouse gas emissions study be conducted for the Proposed Project.

Site Description and Background

The Project Site is located at Roemer Court in the City of Santa Maria, Santa Barbara, California. The Project Site consists of two vacant parcels identified as Assessor Parcel Numbers (APNs) 128-003-047 and 128-003-048 totaling approximately 2.13 acres. There are similar transient lodging developments located to the west of the Project Site, commercial developments to the north and south, and a vacant lot located to the east. The US 101 freeway is located approximately 0.25 miles to the northeast of the Project Site.

Project Description and Schedule

Construction of the Project will occur over six phases which are anticipated to be completed over a period of approximately 13 months. The Proposed Project is the development of a four-story Holiday Inn Express (Hotel) consisting of a total of approximately 56,049 square feet (ft^2). The Hotel will consist of 93 rooms, guest common areas, back of the house facilities, and an indoor pool. The exterior areas will be improved with an approximately 47,934 ft^2 parking lot and landscaping. Grading activities are proposed to disturb approximately 2.13 acres with a cut of 1,685 cubic yards (CY), a fill of approximately 3,404 CY and an import volume of approximately 1,718 CY. Specifically, the Project includes the following components:

- Grading;
- Utilities Installation;
- Landscaping, Concrete and Paving;
- Foundation Work;
- Exterior Construction; and
- Interior Construction.

The construction schedule for Proposed Project improvements could be subject to change due to permitting, field conditions, and weather conditions but is currently anticipated to require approximately 13 months to complete. A summary of the Proposed Project construction tasks and basic schedule is shown below in Table 1.

Table 1. Project Schedule

Activity	Working Days
Grading	10
Utilities Installation	110
Landscaping, Concrete and Paving	92
Foundation Work	44
Exterior Construction	110
Interior Construction	220

CRITERIA POLLUTANTS

Criteria pollutants include Ozone (O_3), carbon monoxide (CO), oxides of nitrogen (NO_X), reactive organic gases (ROG), Sulfur Dioxide (SO_2), particulate matter with a diameter of 10 microns or less (PM_{10}), and particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$).

Ozone. O_3 is formed in the atmosphere through complex photochemical reactions involving NO_X, ROG (also known as reactive organic compounds), and sunlight that occur over several hours. Since O_3 is not emitted directly into the atmosphere but is formed as a result of photochemical reactions, it is classified as a secondary or regional pollutant. These O_3-forming reactions take time, and therefore peak ozone levels are often found downwind of major source areas. O_3 is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from ozone exposure.

Carbon Monoxide. CO is primarily formed through the incomplete combustion of organic fuels. Higher CO values are generally measured during winter when dispersion is limited by morning surface inversions. Seasonal and diurnal variations in meteorological conditions lead to lower values in summer and in the afternoon. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues, which can cause health effects to those with cardiovascular disease and can affect mental alertness and vision.

Nitric Oxide and Nitrogen Dioxide. Nitric Oxide (NO) is a colorless gas formed during combustion processes which rapidly oxidizes to form Nitrogen Dioxide (NO_2), a brownish gas. The highest nitrogen dioxide values are measured in urbanized areas with heavy traffic. Exposure to NO_2 may increase the potential for respiratory infections in children and cause difficulty in breathing even among healthy persons and especially among asthmatics.

Sulfur Dioxide. SO_2 is a colorless, reactive gas that is produced from burning sulfur-containing fuels, such as coal and oil, as well as by other industrial processes. Generally, the highest concentrations of SO2 are found near large industrial sources. SO2 is a respiratory irritant that can cause narrowing of the airways, leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Particulate Matter. Ambient air quality standards have been set for PM_{10} and $PM_{2.5}$. Both consist of different types of particles suspended in the air, such as metal, soot, smoke, dust and fine mineral particles. The particles' toxicity and chemical activity can vary, depending on the source. The primary source of PM_{10} emissions appears to be from the soil via road use, construction, agriculture, and natural windblown dust. Other sources include sea salt, combustion processes (such as those in gasoline or diesel vehicles), and wood burning. Primary sources of $PM_{2.5}$ emissions come from construction sites, wood stoves, fireplaces and diesel truck exhaust. Particulate matter is a health concern because when inhaled it can cause permanent lung damage. While both sizes of particulates can be dangerous when inhaled, $PM_{2.5}$ tends to be more damaging because it remains in the lungs.

GREENHOOUSE GASES

Greenhouse Gases (GHGs), defined as any gas that absorbs infrared radiation in the atmosphere, include, but are not limited to, water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorocarbons. These GHGs trap and build up heat in the atmosphere near the earth's surface, commonly known as the Greenhouse Effect. The atmosphere and the oceans are reaching their capacity to absorb CO_2 and other GHGs, leading to significant global climate change in the future. Unlike criteria pollutants and TACs, which are pollutants of regional and local concern, GHGs and climate change are a local, regional, and global issue. There is widespread international scientific consensus that human-caused increases in GHGs have and will continue to contribute to climate change, although there is uncertainty concerning the magnitude and rate of warming.

REGULATORY THRESHOLDS

The SBCAPCD classifies construction projects as a short-term project and currently does not have thresholds of significance for evaluating the criteria pollutant emission impacts of short-term projects. Based on a review of current SBCAPCD rules, a significance threshold of 25 tons per year is an appropriate construction significance threshold for this study. The SBCAPCD does have thresholds of significance for evaluating the criteria pollutant emissions impact of the operational phase of projects. According to the SBCAPCD if a proposed project's operational emissions are below the following thresholds the project would not have a significant impact on air quality, either individually or cumulatively.

Table 2. Criteria Pollutant Thresholds for Operational Phases (All Sources)

ROG (lbs/day)	NO_X (lbs/day)	PM_{10} (lb/day)
240	240	80

Table 3. Criteria Pollutant Thresholds for Operational Phases (Motor Vehicle Trips Only)

ROG (lbs/day)	NO_X (lbs/day)
25	25

The SBCAPCD has not adopted GHG thresholds of significance for construction or operational GHG emissions; however, the City of Santa Maria Community Development Department (City) has developed[1] a project-specific efficiency threshold of 3.3 metric tons of carbon dioxide equivalent ($MTCO_2E$) per service population per year. This threshold considers the yearly project operational emissions plus the project construction emissions amortized over 30 years.

AIR QUALITY AND GREEN HOUSE GAS ANALYSIS

The primary sources of pollutant emissions for the Proposed Project's construction phase would result from the use of internal combustion engines and soil disturbance. Specifically, conventional construction equipment such as dozers, compactors, excavators,

[1] The project-specific operational efficiency threshold was developed during preparation of the Project's Initial Study documents. This threshold was provided to Padre by the City in an email dated August 8, 2023.

backhoes, loaders and paving machines, utilized during grading, demolition and construction activities. Additional sources of air pollutant emissions include emissions from on-road motor vehicles used to transport materials and personnel, ROG emissions from asphalt paving during paving operations and ROG emissions during the application of architectural coatings. Operational emissions would result primarily from emissions due to on-road motor vehicles and electrical consumption.

Emissions modeling was conducted to estimate the criteria pollutant and GHG emissions for the construction and operational phases of the Project. The emissions were estimated using the most recent emission factors and load factors obtained from the California Emissions Estimator Model® (CalEEMod) User's Guide, Emission Factors (EMFAC) model and the South Coast Air Quality Management District (SCAQMD). Detailed source information is provided in Appendix A.

Construction and operational equipment emissions were estimated using the engine horsepower, engine emission factors, engine load factors and hours of engine use per day. On-road vehicle emissions were estimated using the vehicle type (i.e., passenger gasoline-powered vehicle, heavy-duty diesel-powered vehicle), engine emission factors and length of daily round trips. Operational emissions from on-road motor vehicle use were calculated using data from a traffic study provided by the client. Electricity use and associated emissions were estimated using estimated energy usage and emissions factors. Fugitive dust emissions from proposed soil disturbance activities related to the construction phase were calculated using emission factors, volumes of earth material disturbed, and areas of earth material disturbed. Emissions from asphalt and architectural coatings were calculated using proposed asphalt volumes and estimated architectural coating volumes. The Proposed Project construction schedule was estimated based on a similar project schedule for the Holiday Inn Express in Hollister California which was provided by the client. A tabulation of assumptions, references, and calculations for the Project emission estimates are provided in Appendix A. Tables 4 through 7 below lists the maximum daily estimated Project criteria pollutant emissions calculated by Padre for the Proposed Project construction and operational phases. Table 8 lists the yearly GHG emissions calculated by Padre for the Proposed Project construction and operational phases.

Table 4. Estimated Total Project Construction Criteria Pollutant Emissions

Phase	Emissions					
	ROG (tons/yr)	CO (tons/yr)	NO_X (tons/yr)	SO_X (tons/yr)	PM_{10} (tons/yr)	$PM_{2.5}$ (tons/yr)
Construction Emissions	5.03	2.19	0.83	0.003	0.03	0.03
SBCAPCD Thresholds	25	25	25	25	25	25
Threshold Exceeded?	No	No	No	No	No	No

Table 5. Estimated Project Construction Motor Vehicle Trip Criteria Pollutant Emissions

	Maximum Daily Emissions	
	ROG (lbs/day)	NO_X (lbs/day)
Construction Emissions	0.04	1.99

Table 6. Estimated Total Project Operational Criteria Pollutant Emissions

Phase	Maximum Daily Emissions					
	ROG (lbs/day)	CO (lbs/day)	NO_X (lbs/day)	SO_X (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Operational Emissions	2.55	70.48	9.20	0.27	0.59	0.57
SBCAPCD Thresholds	240	--	240	--	80	--
Threshold Exceeded?	No	No	No	No	No	No

Table 7. Estimated Project Operational Motor Vehicle Trip Criteria Pollutant Emissions

Phase	Maximum Daily Emissions	
	ROG (lbs/day)	NO_X (lbs/day)
Operational Emissions	1.15	8.15
SBCAPCD Thresholds	25	25
Threshold Exceeded?	No	No

As shown in Tables 6 and 7 the implementation of the Proposed Project's operational phase is not estimated to result in an exceedance of SBCAPCD maximum daily emissions thresholds for ROGs, NOx and/or PM_{10}. The emission analysis spreadsheets and the basis of criteria pollutant emissions analysis are provided in Appendix A.

Table 8. Estimated Project Construction GHG Emissions

Phase	N_2O (Tons/Year)	CH_4 (Tons/Year)	CO_2 (Tons/Year)	$MTCO_2E$ (Per/Year)
Construction Emissions	0.05	0.10	669.2	622

Table 9. Estimated Operational Emissions by Service Population

Emission Source	$MTCO_2E$ / year
Amortized Construction Emissions	**21**
Operational Emissions	**220**
Area	0.0
Energy	114
Mobile	65.1
Solid Waste	41.0
Water	0.01
Total Emissions	**241**
Service Population[1]	151
Emissions per Service Population (MT CO2E/SP/year)	**1.6**
Project-Specific Efficiency Threshold ($MTCO_2E$/SP/year)	**3.3**
Exceed Project-Specific Efficiency Threshold?	**No**

As shown in Table 9 the implementation of the proposed Project's operational phase is not estimated to result in an exceedance of the project-specific efficiency threshold of 3.3 $MTCO_2E$ per service population per year.

[1] Service population was provided by the client in an email dated August 15, 2023.

CONCLUSIONS

Based on the results of the criteria pollutant and GHG emissions analysis the Proposed Project's emissions would not exceed SBCAPCD or project-specific efficiency thresholds.

CLOSURE

If you have any questions or require additional information regarding the Analysis, please contact Mr. Robert Vander Weele at (805) 786-2650, extension 134 / rvanderweele@padreinc.com.

Padre Associates, Inc.

Robert Vander Weele, P.G.
Senior Geologist

Attachments:
Appendix A – Construction and Operational Emissions Model Tables

REFERENCES

Associated Transportation Engineers, 2021, Traffic and Circulation Study, Holiday Inn Express Project, City of Santa Maria, December 18.

California Air Resources Board. 2023a. EMission FACtor 2021 (EMFAC). Accessed online at https://arb.ca.gov/emfac

California Air Resources Board. 2023b. Greenhouse Gas Emission Inventory Query Tool for years 2000-2020 (15th Edition). Accessed at https://ww2.arb.ca.gov/applications/greenhouse-gas-emission-inventory-0.

Trinity Consultants. 2021a. California Emissions Estimator Model (CalEEMod) User's Guide, Appendix D, Default Data Tables.

Trinity Consultants. 2021b. California Missions Estimator Model Users Guide, Version 2020-4-0. Dated May.

Santa Barbara County Air Pollution Control District (SBCAPCD), 2022, Scope and Content of Air Quality Sections in Environmental Documents.

Santa Barbara County Planning and Development Department (SBCDPD), 2021, Environmental Thresholds and Guidelines Manual.

Intergovernmental Panel on Climate Change (IPCC). 2021. Sixth Assessment Report.

APPENDIX A
EMISSIONS MODEL TABLES

Holiday Inn Express
Table 1 - Construction Offsite Exhaust Emissions Calculations August 16, 2023

Activity/Source	Source	Activity Code	Vehicle Type	Emission Factors (lbs/mile)									Peak Day Round Trips per day	Average Round Trips per day	Length of Round Trip (miles)	Duration, days	Peak Day Emissions, lbs/day									Total Emissions, Tons								
				ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2					ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2	ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2
Concrete - Within Santa Barbara County																																		
Grading	Trucks - Heavy	1	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical and Gas Utilities	Trucks - Heavy	2	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape, Concrete and Paving	Trucks - Heavy	3	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	1.0	0.6	60.0	92	0.00	0.01	0.18	0.00	0.00	0.00	0.03	0.000	199.63	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	5.89
Foundation	Trucks - Heavy	4	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	3.0	2.7	60.0	44	0.01	0.03	0.54	0.01	0.01	0.01	0.09	0.000	598.89	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	11.78
Exterior Construction	Trucks - Heavy	5	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	2.0	1.1	60.0	110	0.00	0.02	0.36	0.00	0.00	0.00	0.06	0.000	399.26	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	11.78
Interior Construction	Trucks - Heavy	6	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	220	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum by Within Santa Barbara County:																	***0.01***	***0.03***	***0.54***	***0.01***	***0.01***	***0.01***	***0.09***	***0.000***	***598.89***	***0.0001***	***0.0006***	***0.01***	***0.0001***	***0.0001***	***0.0001***	***0.002***	***0.00001***	***11.78***
Total Within Santa Barbara County																										***0.0004***	***0.0015***	***0.03***	***0.0003***	***0.0004***	***0.0003***	***0.005***	***0.00002***	***29.45***
Import Backfill - Within Santa Barbara County																																		
Grading	Trucks - Heavy	1	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	11.0	10.7	60.0	10	0.03	0.11	1.99	0.02	0.03	0.03	0.35	0.001	2195.9	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	10.72
Electrical and Gas Utilities	Trucks - Heavy	2	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape, Concrete and Paving	Trucks - Heavy	3	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foundation	Trucks - Heavy	4	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Construction	Trucks - Heavy	5	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Construction	Trucks - Heavy	6	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	220	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum by Within Santa Barbara County:																	***0.03***	***0.11***	***1.99***	***0.02***	***0.03***	***0.03***	***0.35***	***0.00***	***2195.9***	***0.0001***	***0.0005***	***0.01***	***0.0001***	***0.0001***	***0.0001***	***0.0017***	***0.00001***	***10.72***
Total Within Santa Barbara County:																										***0.0001***	***0.0005***	***0.01***	***0.000***	***0.0001***	***0.0001***	***0.0017***	***0.00001***	***10.72***
Export Soil - Within Santa Barbara County																																		
Grading	Trucks - Heavy	1	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electrical and Gas Utilities	Trucks - Heavy	2	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape, Concrete and Paving	Trucks - Heavy	3	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foundation	Trucks - Heavy	4	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Construction	Trucks - Heavy	5	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interior Construction	Trucks - Heavy	6	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	0.0	0.0	60.0	220	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum by Within Santa Barbara County:																	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***
Total Within Santa Barbara County:																										***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***	***0.000***
Equipment and Supplies - Within Santa Barbara County																																		
Grading	Trucks - Heavy	1	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	2.0	1.6	60.0	10	0.00	0.02	0.36	0.00	0.00	0.00	0.06	0.000	399.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60
Electrical and Gas Utilities	Trucks - Heavy	2	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	1.0	0.3	60.0	110	0.00	0.01	0.18	0.00	0.00	0.00	0.03	0.000	199.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.59
Landscape, Concrete and Paving	Trucks - Heavy	3	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	2.0	1.1	60.0	92	0.00	0.02	0.36	0.00	0.00	0.00	0.06	0.000	399.3	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	10.22
Foundation	Trucks - Heavy	4	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	1.0	0.1	60.0	44	0.00	0.01	0.18	0.00	0.00	0.00	0.03	0.000	199.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Exterior Construction	Trucks - Heavy	5	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	1.0	0.3	60.0	110	0.00	0.01	0.18	0.00	0.00	0.00	0.03	0.000	199.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.59
Interior Construction	Trucks - Heavy	6	T7tc-d55	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.3	1.0	0.0	60.0	220	0.00	0.01	0.18	0.00	0.00	0.00	0.03	0.000	199.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
Maximum by Within Santa Barbara County:																	***0.00***	***0.02***	***0.36***	***0.00***	***0.005***	***0.005***	***0.06***	***0.000***	***399.3***	***0.0001***	***0.001***	***0.01***	***0.0001***	***0.0001***	***0.0001***	***0.002***	***0.00001***	***10.22***
Total Within Santa Barbara County:																										***0.0002***	***0.001***	***0.02***	***0.0002***	***0.0002***	***0.0002***	***0.003***	***0.00001***	***20.40***
Auto and Light Truck Within Santa Barbara County																																		
Grading	Trucks - Light	1	LDT2-d	0.00002	0.00022	0.00016	0.00001	0.00001	0.00001	0.00010	0.00000	0.64	8.4	8.4	60.0	10	0.01	0.11	0.08	0.00	0.01	0.01	0.05	0.001	320.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60
Grading	Autos	1	LDA-g	0.00003	0.00177	0.00015	0.00001	0.00000	0.00000	0.00001	0.00001	0.62	3.6	3.6	60.0	10	0.01	0.38	0.03	0.00	0.00	0.00	0.00	0.001	133.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
Electrical and Gas Utilities	Trucks - Light	2	LDT2-d	0.00002	0.00022	0.00016	0.00001	0.00001	0.00001	0.00010	0.00000	0.64	10.5	10.5	60.0	110	0.02	0.14	0.10	0.00	0.01	0.01	0.06	0.001	400.9	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	22.05
Electrical and Gas Utilities	Autos	2	LDA-g	0.00003	0.00177	0.00015	0.00001	0.00000	0.00000	0.00001	0.00001	0.62	4.5	4.5	60.0	110	0.01	0.48	0.04	0.00	0.00	0.00	0.00	0.002	166.9	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	9.18
Landscape, Concrete and Paving	Trucks - Light	3	LDT2-d	0.00002	0.00022	0.00016	0.00001	0.00001	0.00001	0.00010	0.00000	0.64	10.5	10.5	60.0	92	0.02	0.14	0.10	0.00	0.01	0.01	0.06	0.001	400.9	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	18.44
Landscape, Concrete and Paving	Autos	3	LDA-g	0.00003	0.00177	0.00015	0.00001	0.00000	0.00000	0.00001	0.00001	0.62	4.5	4.5	60.0	92	0.01	0.48	0.04	0.00	0.00	0.00	0.00	0.002	166.9	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	7.68
Foundation	Trucks - Light	4	LDT2-d	0.00002	0.00022	0.00016	0.00001	0.00001	0.00001	0.00010	0.00000	0.64	10.5	10.5	60.0	44	0.02	0.14	0.10	0.00	0.01	0.01	0.06	0.001	400.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.82
Foundation	Autos	4	LDA-g	0.00003	0.00177	0.00015	0.00001	0.00000	0.00000	0.00001	0.00001	0.62	4.5	4.5	60.0	44	0.01	0.48	0.04	0.00	0.00	0.00	0.00	0.002	166.9	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Exterior Construction	Trucks - Light	5	LDT2-d	0.00002	0.00022	0.00016	0.00001	0.00001	0.00001	0.00010	0.00000	0.64	24.5	24.5	60.0	110	0.04	0.33	0.23	0.01	0.02	0.02	0.15	0.002	935.5	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.00	51.45
Exterior Construction	Autos	5	LDA-g	0.00003	0.00177	0.00015	0.00001	0.00000	0.00000	0.00001	0.00001	0.62	10.5	10.5	60.0	110	0.02	1.11	0.09	0.00	0.00	0.00	0.01	0.004	389.5	0.00	0.06	0.01	0.00	0.00	0.00	0.00	0.00	21.42
Interior Construction	Trucks - Light	6	LDT2-d	0.00002	0.00022	0.00016	0.00001	0.00001	0.00001	0.00010	0.00000	0.64	24.5	24.5	60.0	220	0.04	0.33	0.23	0.01	0.02	0.02	0.15	0.002	935.5	0.00	0.04	0.03	0.00	0.00	0.00	0.02	0.00	102.91
Interior Construction	Autos	6	LDA-g	0.00003	0.00177	0.00015	0.00001	0.00000	0.00000	0.00001	0.00001	0.62	10.5	10.5	60.0	220	0.02	1.11	0.09	0.00	0.00	0.00	0.01	0.004	389.5	0.00	0.12	0.01	0.00	0.00	0.00	0.00	0.00	42.85
Maximum by Within Santa Barbara County:																	***0.04***	***1.11***	***0.23***	***0.01***	***0.02***	***0.02***	***0.15***	***0.004***	***935.5***	***0.004***	***0.12***	***0.03***	***0.001***	***0.002***	***0.002***	***0.02***	***0.0004***	***102.91***
Total Within Santa Barbara County:																										***0.01***	***0.32***	***0.07***	***0.003***	***0.005***	***0.005***	***0.03***	***0.001***	***290.75***
Activity Maximum Within Santa Barbara County:																	***0.04***	***1.11***	***1.99***	***0.02***	***0.03***	***0.03***	***0.35***	***0.004***	***2195.91***	***0.004***	***0.12***	***0.03***	***0.001***	***0.002***	***0.00***	***0.02***	***0.00***	***102.91***
Project Total Within Santa Barbara County:																										**0.01**	**0.32**	**0.13**	**0.003**	**0.01**	**0.01**	**0.04**	**0.001**	**351.3**

Notes:

1. Length of trips are assumed to be round trip distances within Santa Barbara County.
2. CalEEMod Santa Barbara County commute distance 30 miles OW
3. Concrete Source 30 miles OW
4. Import source 30 miles OW
5. Export 30 miles OW
6. Equipment/Supplies 30 miles OW

Holiday Inn Express

Table 2 - Construction Onsite Exhaust Emission Calculations August 16, 2023

								Emission Factors (g/bhp-hr)**									Emissions (lb/day)									Total Emission (tons)									Gallons
Equipment	Activity Code	BHP	Load Factor	Hours per Day*	Number	Peak Day	Total Days	ROG	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2	ROG	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2	ROG	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2	Fuel Use
Grading																																			
Architectural Coating	1	--	--	0	0	1	10	250.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.00	0.00	0.00
Asphalt Fugitive	1	--	--	0	0	1	10	2.620	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.00	0.00	0.00
Backhoe	1	120	0.37	6	1	1	10	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.154	511.3	0.04	2.17	0.15	0.00	0.00	0.00	0.00	0.09	300.32	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.50	136.13
Compactor	1	160	0.38	3	1	1	10	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.152	502.6	0.05	1.49	0.93	0.00	0.05	0.05	0.00	0.06	202.12	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.01	93.21
Dozer-1	1	100	0.43	8	1	1	10	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.153	506.0	0.05	2.81	0.20	0.00	0.01	0.01	0.00	0.12	383.77	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.92	175.78
Dozer-2	1	250	0.43	8	1	1	10	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.154	510.3	0.11	4.17	0.49	0.01	0.02	0.02	0.01	0.29	967.58	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.84	439.46
Excavator-1	1	270	0.38	8	1	1	10	0.120	2.600	2.320	0.005	0.088	0.088	0.004	0.148	491.9	0.22	4.70	4.20	0.01	0.16	0.16	0.01	0.27	890.14	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	4.45	419.43
Excavator-2	1	10	0.38	6	1	1	10	0.000	0.000	0.000	0.007	0.000	0.000	0.004	0.119	568.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	28.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	11.65
Loader	1	150	0.36	6	1	1	10	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.153	507.2	0.09	2.64	1.66	0.00	0.08	0.08	0.00	0.11	362.26	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	1.81	165.56
Mini Excavator	1	25	0.38	0	0	1	10	0.120	4.100	2.750	0.005	0.008	0.008	0.004	0.152	504.3	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	0.00	0.00	0.00
Paver	1	225	0.42	0	0	1	10	0.060	2.200	0.260	0.005	0.008	0.008	1.004	0.151	501.7	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	0.00	0.00	0.00
Skipp Loader	1	10	0.37	6	1	1	10	0.000	0.000	0.000	0.005	0.000	0.000	0.004	0.153	508.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	24.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	11.34
Water Truck-1	1	200	0.38	8	1	1	10	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.156	494.1	0.08	2.95	0.35	0.01	0.01	0.01	0.01	0.21	662.29	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	3.31	310.69
Sub Total																	***0.63***	***20.93***	***7.98***	***0.04***	***0.32***	***0.32***	***0.03***	***1.16***	***3,821.92***	***0.0031***	***0.1047***	***0.0399***	***0.0002***	***0.0016***	***0.0016***	***0.0002***	***0.0058***	***19.1096***	***1,763.3***
Electrical and Gas Utilities																																			
Architectural Coating	2	--	--	0	0	1	110	250.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.00	0.00	0.00
Asphalt Fugitive	2	--	--	0	0	1	110	2.620	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.00	0.00	0.00
Backhoe	2	120	0.37	6	1	1	110	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.154	511.3	0.04	2.17	0.15	0.00	0.00	0.00	0.00	0.09	300.32	0.00	0.12	0.01	0.00	0.00	0.00	0.00	0.00	16.52	1,497.43
Compactor	2	160	0.38	0	0	1	110	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.152	502.6	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	0.00	0.00	0.00
Dozer-1	2	100	0.43	0	0	1	110	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.153	506.0	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	0.00	0.00	0.00
Dozer-2	2	250	0.43	0	0	1	110	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.154	510.3	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	0.00	0.00	0.00
Excavator-1	2	270	0.38	6	1	1	110	0.120	2.600	2.320	0.005	0.088	0.088	0.004	0.148	491.9	0.16	3.53	3.15	0.01	0.12	0.12	0.01	0.20	667.61	0.01	0.19	0.17	0.00	0.01	0.01	0.00	0.01	36.72	3,460.29
Excavator-2	2	10	0.38	2	1	1	110	0.000	0.000	0.000	0.007	0.000	0.000	0.004	0.119	568.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	42.72
Loader	2	150	0.36	4	1	1	110	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.153	507.2	0.06	1.76	1.10	0.00	0.05	0.05	0.00	0.07	241.50	0.00	0.10	0.06	0.00	0.00	0.00	0.00	0.00	13.28	1,214.14
Mini Excavator	2	25	0.38	6	1	1	110	0.120	4.100	2.750	0.005	0.008	0.008	0.004	0.152	504.3	0.02	0.52	0.35	0.00	0.00	0.00	0.00	0.02	63.37	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	3.49	320.40
Paver	2	225	0.42	0	0	1	110	0.060	2.200	0.260	0.005	0.008	0.008	1.004	0.151	501.7	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	0.00	0.00	0.00
Skipp Loader	2	10	0.37	4	1	1	110	0.000	0.000	0.000	0.005	0.000	0.000	0.004	0.153	508.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	83.19
Water Truck-1	2	200	0.38	8	1	1	110	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.156	494.1	0.08	2.95	0.35	0.01	0.01	0.01	0.01	0.21	662.29	0.00	0.16	0.02	0.00	0.00	0.00	0.00	0.01	36.43	3,417.57
Sub Total																	***0.35***	***10.93***	***5.10***	***0.02***	***0.19***	***0.19***	***0.02***	***0.60***	***1,961.20***	***0.02***	***0.60***	***0.28***	***0.00***	***0.01***	***0.01***	***0.00***	***0.03***	***107.87***	***10,035.73***
Landscape, Concrete and Paving																																			
Architectural Coating	3	--	--	0	0	1	92	250.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.00	0.00	0.00
Asphalt Fugitive	3	--	--	0.37	1	1	3	2.620	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.96	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	0.00	0.00
Backhoe	3	120	0.37	6	1	1	92	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.154	511.3	0.04	2.17	0.15	0.00	0.00	0.00	0.00	0.09	300.32	0.00	0.10	0.01	0.00	0.00	0.00	0.00	0.00	13.81	1,252.40
Compactor	3	160	0.38	6	1	1	92	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.152	502.6	0.10	2.98	1.87	0.00	0.09	0.09	0.00	0.12	404.23	0.00	0.14	0.09	0.00	0.00	0.00	0.00	0.01	18.59	1,715.00
Dozer-1	3	100	0.43	0	0	1	92	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.153	506.0	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	0.00	0.00	0.00
Dozer-2	3	250	0.43	0	0	1	92	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.154	510.3	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	0.00	0.00	0.00
Excavator-1	3	270	0.38	4	1	1	92	0.120	2.600	2.320	0.005	0.088	0.088	0.004	0.148	491.9	0.11	2.35	2.10	0.00	0.08	0.08	0.00	0.13	445.07	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.01	20.47	1,929.37
Excavator-2	3	10	0.38	4	1	1	92	0.000	0.000	0.000	0.007	0.000	0.000	0.004	0.119	568.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	71.46
Loader	3	150	0.36	4	1	1	92	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.153	507.2	0.06	1.76	1.10	0.00	0.05	0.05	0.00	0.07	241.50	0.00	0.08	0.05	0.00	0.00	0.00	0.00	0.00	11.11	1,015.46
Mini Excavator	3	25	0.38	6	1	1	92	0.120	4.100	2.750	0.005	0.008	0.008	0.004	0.152	504.3	0.02	0.52	0.35	0.00	0.00	0.00	0.00	0.02	63.37	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	2.92	267.97
Paver	3	225	0.42	6	1	1	3	0.060	2.200	0.260	0.005	0.008	0.008	1.004	0.151	501.7	0.08	2.75	0.33	0.01	0.01	0.01	1.26	0.19	627.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	86.92
Skipp Loader	3	10	0.37	4	1	1	92	0.000	0.000	0.000	0.005	0.000	0.000	0.004	0.153	508.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	69.58
Water Truck-1	3	200	0.38	8	1	1	92	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.156	494.1	0.08	2.95	0.35	0.01	0.01	0.01	0.01	0.21	662.29	0.00	0.14	0.02	0.00	0.00	0.00	0.00	0.01	30.47	2,858.33
Sub Total																	***1.43***	***15.48***	***6.24***	***0.03***	***0.25***	***0.25***	***1.27***	***0.85***	***2,779.50***	***0.02***	***0.59***	***0.27***	***0.00***	***0.01***	***0.01***	***0.00***	***0.03***	***99.95***	***9,266.48***
Foundation																																			
Architectural Coating	4	--	--	0	0	1	44	250.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.00	0.00	0.00
Asphalt Fugitive	4	--	--	0	0	1	44	2.620	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.00	0.00	0.00
Backhoe	4	120	0.37	6	1	1	44	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.154	511.3	0.04	2.17	0.15	0.00	0.00	0.00	0.00	0.09	300.32	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	6.61	598.97
Compactor	4	160	0.38	0	0	1	44	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.152	502.6	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	0.00	0.00	0.00
Dozer-1	4	100	0.43	0	0	1	44	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.153	506.0	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	0.00	0.00	0.00
Dozer-2	4	250	0.43	0	0	1	44	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.154	510.3	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	0.00	0.00	0.00
Excavator-1	4	270	0.38	0	0	1	44	0.120	2.600	2.320	0.005	0.088	0.088	0.004	0.148	491.9	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	0.00	0.00	0.00
Excavator-2	4	10	0.38	0	0	1	44	0.000	0.000	0.000	0.007	0.000	0.000	0.004	0.119	568.3	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	0.00	0.00	0.00
Loader	4	150	0.36	4	1	1	44	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.153	507.2	0.06	1.76	1.10	0.00	0.05	0.05	0.00	0.07	241.50	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	5.31	485.65
Mini Excavator	4	25	0.38	6	1	1	44	0.120	4.100	2.750	0.005	0.008	0.008	0.004	0.152	504.3	0.02	0.52	0.35	0.00	0.00	0.00	0.00	0.02	63.37	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	1.39	128.16
Paver	4	225	0.42	0	0	1	44	0.060	2.200	0.260	0.005	0.008	0.008	1.004	0.151	501.7	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	0.00	0.00	0.00
Skipp Loader	4	10	0.37	4	1	1	44	0.000	0.000	0.000	0.005	0.000	0.000	0.004	0.153	508.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	33.28
Water Truck-1	4	200	0.38	8	1	1	44	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.156	494.1	0.08	2.95	0.35	0.01	0.01	0.01	0.01	0.21	662.29	0.00	0.06	0.01	0.00	0.00	0.00	0.00	0.01	14.57	1,367.03
Sub Total																	***0.19***	***7.40***	***1.95***	***0.01***	***0.07***	***0.07***	***0.01***	***0.40***	***1,284.07***	***0.00***	***0.16***	***0.04***	***0.00***	***0.00***	***0.00***	***0.00***	***0.01***	***28.25***	***2,613.09***

Holiday Inn Express

Table 2 - Construction Onsite Exhaust Emission Calculations August 16, 2023

								Emission Factors (g/bhp-hr)**									Emissions (lb/day)									Total Emission (tons)									Gallons
Equipment	Activity Code	BHP	Load Factor	Hours per Day*	Number	Peak Day	Total Days	ROG	CO	NO_x	SO_X	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2	ROG	CO	NO_x	SO_X	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2	ROG	CO	NO_x	SO_X	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2	Fuel Use
Exterior Construction																																			
Architectural Coating	5	--	--	203	1	1	14	250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	111.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Fugitive	5	--	--	0	0	1	110	2.620	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.00	0.00	0.00
Backhoe	5	120	0.37	4	1	1	110	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.154	511.3	0.02	1.45	0.10	0.00	0.00	0.00	0.00	0.06	200.21	0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.00	11.01	998.29
Compactor	5	160	0.38	0	0	1	110	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.152	502.6	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	0.00	0.00	0.00
Dozer-1	5	100	0.43	0	0	1	110	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.153	506.0	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	0.00	0.00	0.00
Dozer-2	5	250	0.43	0	0	1	110	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.154	510.3	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	0.00	0.00	0.00
Excavator-1	5	270	0.38	0	0	1	110	0.120	2.600	2.320	0.005	0.088	0.088	0.004	0.148	491.9	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	0.00	0.00	0.00
Excavator-2	5	10	0.38	0	0	1	110	0.000	0.000	0.000	0.007	0.000	0.000	0.004	0.119	568.3	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	0.00	0.00	0.00
Loader	5	150	0.36	4	1	1	110	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.153	507.2	0.06	1.76	1.10	0.00	0.05	0.05	0.00	0.07	241.50	0.00	0.10	0.06	0.00	0.00	0.00	0.00	0.00	13.28	1,214.14
Mini Excavator	5	25	0.38	0	0	1	110	0.120	4.100	2.750	0.005	0.008	0.008	0.004	0.152	504.3	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	0.00	0.00	0.00
Paver	5	225	0.42	0	0	1	110	0.060	2.200	0.260	0.005	0.008	0.008	1.004	0.151	501.7	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	0.00	0.00	0.00
Skipp Loader	5	10	0.37	4	1	1	110	0.000	0.000	0.000	0.005	0.000	0.000	0.004	0.153	508.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	83.19
Water Truck-1	5	200	0.38	2	1	1	110	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.156	494.1	0.02	0.74	0.09	0.00	0.00	0.00	0.00	0.05	165.57	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	9.11	854.39
Sub Total																	***111.87***	***3.95***	***1.29***	***0.01***	***0.06***	***0.06***	***0.01***	***0.19***	***623.88***	***0.79***	***0.22***	***0.07***	***0.00***	***0.00***	***0.00***	***0.00***	***0.01***	***34.31***	***3,150.01***
Interior Construction																																			
Architectural Coating	6	--	--	757.05	1	1	20	250.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	417.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Fugitive	6	--	--	0	0	1	220	2.620	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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	0.00	0.00	0.00
Backhoe	6	120	0.37	0	0	1	220	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.154	511.3	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	0.00	0.00	0.00
Compactor	6	160	0.38	0	0	1	220	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.152	502.6	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	0.00	0.00	0.00
Dozer-1	6	100	0.43	0	0	1	220	0.060	3.700	0.260	0.005	0.008	0.008	0.004	0.153	506.0	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	0.00	0.00	0.00
Dozer-2	6	250	0.43	0	0	1	220	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.154	510.3	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	0.00	0.00	0.00
Excavator-1	6	270	0.38	0	0	1	220	0.120	2.600	2.320	0.005	0.088	0.088	0.004	0.148	491.9	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	0.00	0.00	0.00
Excavator-2	6	10	0.38	0	0	1	220	0.000	0.000	0.000	0.007	0.000	0.000	0.004	0.119	568.3	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	0.00	0.00	0.00
Loader	6	150	0.36	4	1	1	220	0.120	3.700	2.320	0.005	0.112	0.112	0.004	0.153	507.2	0.06	1.76	1.10	0.00	0.05	0.05	0.00	0.07	241.50	0.01	0.19	0.12	0.00	0.01	0.01	0.00	0.01	26.57	2,428.27
Mini Excavator	6	25	0.38	0	0	1	220	0.120	4.100	2.750	0.005	0.008	0.008	0.004	0.152	504.3	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	0.00	0.00	0.00
Paver	6	225	0.42	0	0	1	220	0.060	2.200	0.260	0.005	0.008	0.008	1.004	0.151	501.7	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	0.00	0.00	0.00
Skipp Loader	6	10	0.37	4	1	1	220	0.000	0.000	0.000	0.005	0.000	0.000	0.004	0.153	508.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	166.38
Water Truck-1	6	200	0.38	0	0	1	220	0.060	2.200	0.260	0.005	0.008	0.008	0.004	0.156	494.1	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	0.00	0.00	0.00
Sub Total																	***417.31***	***1.76***	***1.10***	***0.00***	***0.05***	***0.05***	***0.00***	***0.08***	***258.09***	***4.18***	***0.19***	***0.12***	***0.00***	***0.01***	***0.01***	***0.00***	***0.01***	***28.39***	***2,594.65***
Onsite Total																	**417.31**	**20.93**	**7.98**	**0.04**	**0.32**	**0.32**	**1.27**	**1.16**	**3,821.92**	**5.01**	**1.87**	**0.83**	**0.003**	**0.03**	**0.03**	**0.005**	**0.10**	**317.88**	**29,423.23**

Notes:

1. Fuel use based on EPA 0.0511 gal/bhp-hr, AP-42 Chapt 3.3
2. Construction asphalt acreage based on estimate from grading plans.
3. The unit g/bhp-hr was converted to lb/bhp-hr using the multiplier (conversion) that 1 gram = 0.0022046 lb.
4. The unit pound was converted to tons using the multiplier (conversion) that 1 pound = 0.0005 tons.

* - The value for asphalt fugitive are in acers per day and the value for Architectural Coating is in liters per day.

Holiday Inn Express

Table 3 - Construction Fugitive Dust Emissions Calculations August 16, 2023

Activity	Activity Code	Average Source	Peak Source	Source Units	Number of Days	Emission Factor	Emission Factor, Units	Peak Day Emissions (lbs/day)		Total Emissions (tons)	
								PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Grading											
Grading	1	0.2130	0.2130	acres/day	10	0.429	lbs PM_{10}/day/acre	0.0914	0.0083	0.0005	0.0000
Electrical and Gas Utilities	2	0.0024	0.0024	acres/day	110	0.429	lbs PM_{10}/day/acre	0.0010	0.0001	0.0001	0.0000
Landscape, Concrete and Paving	3	0.0174	0.0174	acres/day	92	0.429	lbs PM_{10}/day/acre	0.0075	0.0007	0.0003	0.0000
Foundation	4	0.0061	0.0061	acres/day	44	0.429	lbs PM_{10}/day/acre	0.0026	0.0002	0.0001	0.0000
Exterior Construction	5	0.0000	0.0000	acres/day	110	0.429	lbs PM_{10}/day/acre	0.0000	0.0000	0.0000	0.0000
Interior Construction	6	0.0000	0.0000	acres/day	220	0.429	lbs PM_{10}/day/acre	0.0000	0.0000	0.0000	0.0000
							Max per day:	**0.0914**	**0.0083**	**--**	**--**
							Total:	**--**	**--**	**0.0009**	**0.0001**
Dumping											
Grading	1	171.9	171.9	tons/day	10	0.01421	lbs/ton	2.44	0.37	0.012	0.002
Electrical and Gas Utilities	2	0.0	0.0	tons/day	110	0.01421	lbs/ton	0.00	0.00	0.000	0.000
Landscape, Concrete and Paving	3	0.0	0.0	tons/day	92	0.01421	lbs/ton	0.00	0.00	0.000	0.000
Foundation	4	0.0	0.0	tons/day	44	0.01421	lbs/ton	0.00	0.00	0.000	0.000
Exterior Construction	5	0.0	0.0	tons/day	110	0.01421	lbs/ton	0.00	0.00	0.000	0.000
Interior Construction	6	0.0	0.0	tons/day	220	0.01421	lbs/ton	0.00	0.00	0.000	0.000
							Max per day:	**2.44**	**0.37**	**--**	**--**
							Total:	**--**	**--**	**0.012**	**0.002**
Unpaved Road Travel											
Grading	1	0.13	0.13	vehicle-miles/day	10	1.13	lbs/vehicle-mile	0.14	0.01	0.001	0.00007
Electrical and Gas Utilities	2	0.13	0.13	vehicle-miles/day	110	1.13	lbs/vehicle-mile	0.14	0.01	0.008	0.00078
Landscape, Concrete and Paving	3	0.13	0.13	vehicle-miles/day	92	1.13	lbs/vehicle-mile	0.14	0.01	0.007	0.00065
Foundation	4	0.13	0.13	vehicle-miles/day	44	1.13	lbs/vehicle-mile	0.14	0.01	0.003	0.00031
Exterior Construction	5	0.13	0.13	vehicle-miles/day	110	1.13	lbs/vehicle-mile	0.14	0.01	0.008	0.00078
Interior Construction	6	0.13	0.13	vehicle-miles/day	220	1.13	lbs/vehicle-mile	0.14	0.01	0.016	0.00156
							Max per day:	**0.14**	**0.01**	**--**	**--**
							Total:	**--**	**--**	**0.042**	**0.004**

Fugitive Dust Emissions: Inputs for the Table

Emission factors based on following inputs		
Mean number of rain days per year	*10.0*	*worst case*
Silt content of soil, fill storage pile, %	*1.5*	*SCAQMD default value*
Roadway inputs (paved and unpaved, as per URBEMIS)		
Roads mean vehicle weight, tons	*20.61*	*based on project description, HHDT + LDT and vehicles weight (average of full and empty)*
unpaved dirt road silt content, %	*8.4*	*AP-42 construction sites*
Truck Loading inputs		
k, particle size multiplier, default=0.35 fpr pm10	*0.35*	
U, mean wind speed, mph range 1.3-15	*8.15*	
M, moisture content, default=12%	*12*	
PM2.5/PM10 ratio truck loading	*0.15*	
Site grading emissions from CalEEMod for grading	*0.091*	*ratio of PM2.5/PM10 CalEEMod*
Demolition materials, tons/yds3	*1.000*	*estimated for concrete debris*
Fill materials, tons/yds3	*1.000*	*estimated for soils*
Mitigation: grading/dist area watering (fraction reduction)	*0.61*	*0.61 for watering every 3 hours (SCAQMD)*
Mitigation: dumping soil moisture (fraction reduction)	*0.30*	*0.69 for minimum 12% soil moisture (SCAQMD)*
Mitigation: roads (fraction reduction)	*0.55*	*0.55 for watering 3X per day (SCAQMD), 0.80 for soil binders applied monthly (AP-42)*

Notes:

$PM_{2.5}/PM_{10}$ ratio as per AP-42 k factor for PM_{10} and $PM_{2.5}$

Demolition dust calculations as per EPA AP-42 11.19 and 13.2.4

Truck loading dumping cut/fill based on CalEEMod

Paved and unpaved road dust emissions based on AP-42 2006 (unpaved) Chapt 13. EPA AP-42 2006 is the same as URBEMS and CalEEMod

One month assumes 22 days of activity, as per URBEMIS

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

Holiday Inn Express

Table 4 - Construction Emission Factors August 16, 2023

Onsite

Equipment	Tier	Engine Size (bhp)	LF	Engine Year	Emission Factors (g/bhp-hr) ROG	CO	NO_x	SO_X	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2
Architectural Coating	EF = g/L	--	--	0	250	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.000
Asphalt Fugitive	EF = lb/acre	--	--	0	2.62	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.000
Backhoe	4	120	0.37	0	0.060	3.700	0.260	0.005	0.008	0.008	0.0042	0.154	511.3
Compactor	3	160	0.38	0	0.120	3.700	2.320	0.005	0.112	0.112	0.0042	0.152	502.6
Dozer-1	4	100	0.43	0	0.060	3.700	0.260	0.005	0.008	0.008	0.0042	0.153	506.0
Dozer-2	4	250	0.43	0	0.060	2.200	0.260	0.005	0.008	0.008	0.0042	0.154	510.3
Excavator-1	3	270	0.38	0	0.120	2.600	2.320	0.005	0.088	0.088	0.0042	0.148	491.9
Excavator-2	4	10	0.38	0	0.000	0.000	0.000	0.007	0.000	0.000	0.0042	0.119	568.3
Loader	3	150	0.36	0	0.120	3.700	2.320	0.005	0.112	0.112	0.0042	0.153	507.2
Mini Excavator	4	25	0.38	0	0.120	4.100	2.750	0.005	0.008	0.008	0.0042	0.152	504.3
Paver	4	225	0.42	0	0.060	2.200	0.260	0.005	0.008	0.008	1.0042	0.151	501.7
Skipp Loader	4	10	0.37	0	0.000	0.000	0.000	0.005	0.000	0.000	0.0042	0.153	508.4
Water Truck-1	4	200	0.38	0	0.060	2.200	0.260	0.005	0.008	0.008	0.0042	0.156	494.1

Notes:

Emission Factors from CalEEMod, Appendix D

Asphalt fugitive EF lbs ROG/acre from CalEEMod, Appendix B.1

Archtectual Coating EF grams ROG/liter from CalEEMod, Appendix D

HP from CalEEMod Appendix D from OFFROAD and applicant data

CH_4 from CalEEMod

N_2O from State (and Federal) Mandatory Reporting Rule, Table 6

-- Not Available or Applicable

Offsite - Running

Santa Barbara County

Vehicle	Notes	g/mile ROG	CO	NO_x	SO_X	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2	lbs/mile ROG	CO	NO_x	SO_X	PM_{10}	$PM_{2.5}$	N2O	CH4	CO2
T7tc-d55	55 mph	0.018	0.075	1.373	0.014	0.018	0.017	0.238	0.001	1512	0.00004	0.00016	0.00302	0.00003	0.00004	0.00004	0.00052	0.00000	3.32714
T6 Utility	55 mph	0.005	0.025	0.440	0.009	0.005	0.004	0.155	0.000	986	0.00001	0.00005	0.00097	0.00002	0.00001	0.00001	0.00034	0.00000	2.17023
LDT2-d	55 mph	0.011	0.101	0.071	0.003	0.006	0.006	0.046	0.001	289	0.00002	0.00022	0.00016	0.00001	0.00001	0.00001	0.00010	0.00000	0.63641
LDA-g	55 mph	0.012	0.802	0.067	0.003	0.001	0.001	0.006	0.003	281	0.00003	0.00177	0.00015	0.00001	0.00000	0.00000	0.00001	0.00001	0.61826

Notes:

Emission factors from EMFAC2021 (year 2022, aggregated model year)

Holiday Inn Express

Table 5 - Construction Schedule August 16, 2023

												1st QTR			2nd QTR			3rd QTR			4th QTR			1st QTR		
												2022							2022							
				Heavy Truck Trips Round Trips / Day						Commuter Vehicles		Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
Phase	**Activity**	**Code**	**Duration, days**	**HT Avg (T-Export)***	**HT Avg (T-Import)***	**HT Avg (T-Equipment)***	**HT Peak (T-Export)**	**HT Peak (T-Import)**	**HT Peak (T-Equipment)**	**Autos**	**LT**	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Grading	1	10	0.0	10.7	1.6	0	11	2	4	8	1														
2	Electrical and Gas Utilities	2	110	0.0	0.0	0.3	0	0	1	5	11	1	1	1	1	1										
3	Landscape, Concrete and Paving	3	92	0.0	0.0	1.1	0	0	2	5	11			1				1	1	1				1		
4	Foundation	4	44	0.0	0.0	0.1	0	0	1	5	11		1	1												
5	Exterior Construction	5	110	0.0	0.0	0.3	0	0	1	11	25					1	1	1	1	1	1					
6	Interior Construction	6	220	0.0	0.0	0.0	0	0	1	11	25				1	1	1	1	1	1	1	1	1	1		
											Peak Export Trucks per day	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
											Peak Import Trucks per day	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
											Peak Equip Trucks per day	2	1	2	1	1	1	2	2	2	1	1	1	2	0	0
											Total Peak Trucks per day	13	1	2	1	1	1	2	2	2	1	1	1	2	0	0
											Autos per day	8.1	9	13.5	15	25.5	21	25.5	25.5	25.5	21	10.5	10.5	15	0	0
											Light Trucks per day	18.9	21	31.5	35	59.5	49	59.5	59.5	59.5	49	24.5	24.5	35	0	0

Notes:

Duration assumes 5 days per week and 22 days per month

Project Schedule is estimated

**- SUM of truck trips divided by the duration in days.*

Holiday Inn Express

CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 1: OPERATIONAL EMISSIONS SUMMARY

Source	Peak Day Emissions (lbs/day)									Annual Emissions (tons/yr)									
	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	$MTCO_2e$
Operational Phase All Vehicle Trip Emissions	4.65	0.64	0.233	0.222	15.88	0.147	1.86	0.066	15,331	0.589	0.115	0.042	0.040	2.89	0.025	0.315	0.012	2,642	2,476
Operational Phase Employee / Deleveries Vehicle Trip Emissions	1.71	0.019	0.006	0.006	0.53	0.012	0.172	0.002	1,234	0.05	0.002	0.001	0.001	0.092	0.001	0.007	0.000	69.9	65.1
Operational Phase Guest Vehicle Trip Emissions	2.94	0.62	0.227	0.217	15.35	0.135	1.69	0.064	14,096	0.536	0.113	0.041	0.040	2.80	0.025	0.308	0.012	2,573	2,410
Operational Phase Emissions Without Vehicle Emissions	1.05	1.40	0.172	0.172	41.84	0.006	0.050	0.177	1,349	0.116	0.029	0.010	0.010	0.630	0.001	0.100	1.46	103.0	155.4
Total Operational Phase Emissions	*5.70*	*2.04*	*0.405*	*0.394*	*57.72*	*0.153*	*1.91*	*0.243*	*16,679*	*0.704*	*0.145*	*0.052*	*0.050*	*3.522*	*0.026*	*0.416*	*1.47*	*2,745*	*2,631*
Total CEQA Operational Phase Emissions	***2.76***	***1.42***	***0.178***	***0.177***	***42.37***	***0.018***	***0.222***	***0.179***	***2,583***	***0.168***	***0.032***	***0.011***	***0.010***	***0.722***	***0.001***	***0.107***	***1.46***	***172.896***	***220***
SBCAPCD Significance Thresholds for All Emissions	***240***	***240***	***80***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Threshold exceeded?	***No***	***No***	***No***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SBCAPCD Significance Thresholds Vehicle Trip Emissions	***25***	***25***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Threshold exceeded?	***No***	***No***	***No***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GHG - $MTCO_2E$ conversions																***273***	***28***	***1***	--
Total CEQA Operational Phase $MTCO_2E/yr$																***220***			
Amortized Construction Phase Emissions																***21***			
Service Population																***151***			
SBCAPCD $MTCO_2E$ Significance Threshold																***3.3***			
Total CEQA Operational Phase + Amortzed Construction Phase Emissions $MTCO_2E/yr$																***241***			
Total CEQA Operational + Amortzed Construction Emissions $MTCO_2E/SP/yr$																***1.6***			
Threshold exceeded?																***No***			

Notes:

- Global Warming Potentials (273 for N_2O, 27.9 for CH_4, and 1 for CO_2, Table 7.SM.6, Intergovernmental Panel on Climate Change (IPCC). 2021. Sixth Assessment Report

CEQA - California Environmental Quality Act

$MTCO_2E$ - Metric Tons of Carbon Dioxide Equivalent

SBCAPCD - Santa Barbara County Air Pollution Control District

Service Population = onsite employees (17) + residents per onsite employee household (34) + service industry workers per day per year (2) + average number of guest per stay per year (98).

CEQA Operational Phase Emissions - Per the VMT analysis prepared by Associated Transportation Engineers and the City of Santa Maria's Environmental Procedures and Guidelines Manual work and leisure trips (hotel guest trips) would occur without the development of the hotel since the destination (Santa Maria) is the trip attractor not the hotel therefor the VTM analysis does not inculde the hotel guest trips in the CEQA Operational Phase Emissions. The emissions associated with hotel guest trips are not incuded in the CEQA Operational Phase Emissions estimate. The CEQA Operational Phase Emissions are used to calculate the operational project impacts.

NO_x - Oxides of Nitrogen

ROG - Reactive Organic Gases

$PM_{2.5}$ - Particulate Matter 2.5 Microns or Less

PM_{10} - Particulate Matter 10 Microns or Less

DPM - Diesel Particulate Matter

CO - Carbon Monoxide

SO_2 - Sulfur Dioxide

N_2O - Nitrous Oxide

CH_4 - Methane

CO_2 - Carbon Dioxide

Assumptions:

Operations assumed 7 days per week.

Holiday Inn Express
CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS
TABLE 2: Operations

Landscaping Equipment Sources

						Emission Factors (g/bhp-hr)									Emissions (lb/day)									Total Emissions (tons)								
Source	BHP	Load Factor	Number	Hours/ Day	Duration (days)	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2
Ridding Lawn Mower	25	33	1	0	26	5.430	7.641	0.370	0.370	543.131	0.021	0.004	0.429	858.879	0.000	0.000	0.000	0.000	0.0	0.000	0.000	0.000	0.0	0.000	0.000	0.000	0.000	0.000	0.00000	0.0000	0.0000	0.0000
Trimmer	5	91	1	3	26	8.589	19.581	0.338	0.338	380.309	0.029	0.004	1.101	858.879	0.258	0.589	0.010	0.010	11.4	0.001	0.000	0.033	25.8	0.003	0.008	0.000	0.000	0.149	0.00001	0.0000	0.0004	0.3360
Leaf Blower	5	94	2	3	26	2.987	12.022	1.861	1.861	480.736	0.029	0.004	0.676	858.880	0.186	0.747	0.116	0.116	29.9	0.002	0.000	0.042	53.4	0.002	0.010	0.002	0.002	0.389	0.00002	0.0000	0.0005	0.6942
														Total	**0.444**	**1.337**	**0.126**	**0.126**	**41.3**	**0.003**	**0.000**	**0.075**	**79.2**	**0.006**	**0.017**	**0.002**	**0.002**	**0.537**	**0.0000**	**0.000**	**0.001**	**1.030**

On-Road Sources

						Emission Factors (g/mile)									Peak Day Emissions (lb/day)									Total Emissions (tons)								
Source	Peak Round Trips/Day	Average Round Trips/Day	Number of Vehicles	Length of Round Trip (miles)	Duration (days)	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2
Passenger Vehicle - LDA (offsite)	1	1	120	50	365	0.0619	0.0132	0.0014	0.0013	0.8413	0.0029	0.0059	0.0032	293	0.819	0.175	0.018	0.017	11.128	0.038	0.078	0.0429	3872.7	0.149	0.032	0.003	0.003	2.031	0.007	0.014	0.008	706.8
Light-Duty Truck - LDT2 (offsite)	1	1	280	50	365	0.0687	0.0144	0.0068	0.0065	0.1367	0.0031	0.0522	0.0007	331	2.120	0.446	0.209	0.200	4.218	0.097	1.611	0.0207	10223.7	0.387	0.081	0.038	0.036	0.770	0.018	0.294	0.004	1865.8
Passenger Vehicle - LDA (offsite)	1	1	8	30	365	0.0619	0.0132	0.0014	0.0013	0.8413	0.0029	0.0059	0.0032	293	0.034	0.007	0.001	0.001	0.467	0.002	0.003	0.0018	162.7	0.006	0.001	0.000	0.000	0.085	0.000	0.001	0.000	29.685
Light-Duty Truck - LDT2 (offsite)	1	1	4	30	365	0.0687	0.0144	0.0068	0.0065	0.1367	0.0031	0.0522	0.0007	331	0.016	0.003	0.002	0.002	0.033	0.001	0.012	0.0002	78.9	0.003	0.001	0.000	0.000	0.006	0.000	0.002	0.000	14.394
Med-Heavy Duty - T6 Utility (offsite)	1	1	6	30	52	0.8171	0.0159	0.0043	0.0041	0.0716	0.0107	0.1777	0.0007	1128	0.324	0.006	0.002	0.002	0.028	0.004	0.071	0.0003	447.5	0.008	0.000	0.000	0.000	0.001	0.000	0.002	0.000	11.636
Heavy Duty Trucks - T7TC (offsite)	1	1	2	30	52	10.0957	0.0149	0.0150	0.0144	0.0414	0.0390	0.6493	0.0007	4121	1.335	0.002	0.002	0.002	0.005	0.005	0.086	0.0001	545.1	0.035	0.000	0.000	0.000	0.000	0.000	0.002	0.000	14.174
														Total	**4.65**	**0.639**	**0.233**	**0.222**	**15.880**	**0.147**	**1.861**	**0.0660**	**15,330.6**	**0.589**	**0.115**	**0.042**	**0.040**	**2.893**	**0.025**	**0.315**	**0.01198**	**2,642.5**

Land Use Sources

Electricity Use

					Emission Factor (lb/kWh)			Emissions (lb/kWh/day)			Emissions (metric tons/kWh/yr)		
Source	Units or Sq Feet	Electricity Use kW/units/yr	Electricity Lighting Use kW/units/yr	Electricity Water Use kW/yr	N_2O	CH_4	CO_2	N_2O	CH_4	CO_2	N_2O	CH_4	CO_2
Hotel	56,049	2.15	2.41	3.75	0.000004	0.00003	0.5279	0.00280	0.02311	369.66	0.00051	0.00422	67.46
Pool	425	1.55	0.00	0.02	0.000004	0.00003	0.5279	0.00001	0.00006	0.958	0.00000	0.00001	0.17
Parking Lot	47,934	0.00	0.88	0.00	0.000004	0.00003	0.5279	0.00046	0.00381	61.01	0.00008	0.00070	11.13
Exterior Lighting	78,932	0.00	0.88	0.00	0.000004	0.00003	0.5279	0.00076	0.00628	100.47	0.00014	0.00115	18.33
							Total	**0.00403**	**0.03326**	**532**	**0.00074**	**0.00607**	**97.1**

Notes:
- Square footage and number of units provided by client
- Occupancy rate of 100% used
- Round trips for LDA and LDT2 were obtained from traffic study.

Natural Gas

			Emission Factors, g/kBTU									Emissions (lb/day)									Total Emissions (tons)						Total Emissions (metric tons)		
Source	kBtu/Unit	SQF	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2
Natural Gas Commercial	40	56,049	0.044	0.005	0.003	0.003	0.037	0.000	0.001	0.001	53	0.60219	0.06624	0.04577	0.04577	0.50584	0.00361	0.01325	0.01385	722.623	0.10990	0.01209	0.00835	0.00835	0.09232	0.00066	0.09970	0.01097	0.00758
											Total	**0.60219**	**0.06624**	**0.04577**	**0.04577**	**0.50584**	**0.00361**	**0.01325**	**0.01385**	**722.6**	**0.10990**	**0.01209**	**0.00835**	**0.00835**	**0.09232**	**0.00066**	**0.09970**	**0.01097**	**0.00758**

Wastewater Treatment		Emission Factor (lb/gal)			Emissions (pound/day)			Emissions (metric tons/year)		
Source	Wastewater Generated (gallons/yr)	N_2O	CH_4	CO_2	N_2O	CH_4	CO_2	N_2O	CH_4	CO_2
Project Site	6,219,648	0.0000019	0.0000030	0.00086	0.0319	0.0504	14.7	0.00002	0.00003	0.00733
Total					**0.0319**	**0.0504**	**14.7**	**0.00002**	**0.00003**	**0.00733**

Solid Waste		Emission Factor (tons/ton)		Emissions (pound/day)		Emissions (tons/year)	
Source	Solid Waste Generated (tons/yr/unit	CH_4	CO_2	CH_4	CO_2	CH_4	CO_2
Hotel Unit	33.9	0.04257	0.14307	0.0044	0.0147	1.44	4.86
			Total	**0.0044**	**0.0147**	**1.4**	**4.9**

Holiday Inn Express

CRITERIA POLLUTANTS & GREENHOUSE GAS EMISSIONS

TABLE 3: Operational Emission Factors and Assumptions

Onsite Construction

				Emission Factors (g/bhp-hr)									Emission Factors (lb/bhp-hr)								
Source	Tier	Operational Horsepower	Load Factor	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2
Ridding Lawn Mower	--	25	33	5.430	7.641	0.370	0.370	543	0.021	0.0042	0.429	859	0.0120	0.0168	0.0008	0.0008	1.1974	0.00005	0.00001	0.00095	1.8935
Trimmer	--	5	91	8.589	19.581	0.338	0.338	380	0.029	0.0042	1.101	859	0.0189	0.0432	0.0007	0.0007	0.8384	0.00006	0.00001	0.00243	1.8935
Leaf Blower	--	5	94	2.987	12.022	1.861	1.861	481	0.029	0.0042	0.676	859	0.0066	0.0265	0.0041	0.0041	1.0598	0.00006	0.00001	0.00149	1.8935

Onsite

				Emission Factors, g/kBTU									Emission Factors (lb/kBTU)								
Source	Tier	Operational Horsepower	Load Factor	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2
Natural Gas Commercial	--	--	--	0.044470	0.004892	0.003380	0.003380	0.037355	0.000267	0.000978	0.001023	53.363808	0.000092	0.000011	0.000007	0.000007	0.000039	0.000001	0.000002	0.000002	0.117647

Offsite

			Emission Factors (g/mile)									Emission Factors (lb/mile)								
Source	Tier	Region	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2	NO_x	ROG	PM_{10}	$PM_{2.5}$	CO	SO_2	N_2O	CH_4	CO_2
Passenger Vehicle - LDA (offsite)	--	Santa Barbara County	0.0619	0.0132	0.0014	0.0013	0.8413	0.0029	0.0059	0.0032	293	0.0001	0.0000	0.0000	0.0000	0.0019	0.00001	0.00001	0.00001	0.6455
Light-Duty Truck - LDT2 (offsite)	--	Santa Barbara County	0.0687	0.0144	0.0068	0.0065	0.1367	0.0031	0.0522	0.0007	331	0.0002	0.0000	0.0000	0.0000	0.0003	0.00001	0.00012	0.00000	0.7303
Med-Heavy Duty - T6 Utility (offsite)	--	Santa Barbara County	0.8171	0.0159	0.0043	0.0041	0.0716	0.0107	0.1777	0.0007	1128	0.0018	0.0000	0.0000	0.0000	0.0002	0.00002	0.00039	0.00000	2.4862
Heavy Duty Haul Truck - T7T (offsite)	--	Santa Barbara County	1.9814	0.0274	0.0206	0.0197	0.1320	0.0159	0.2639	0.0013	1675	0.0044	0.0001	0.0000	0.0000	0.0003	0.00003	0.00058	0.00000	3.6925
Heavy Duty Trucks - T7TC (offsite)	--	Santa Barbara County	10.0957	0.0149	0.0150	0.0144	0.0414	0.0390	0.6493	0.0007	4121	0.0223	0.0000	0.0000	0.0000	0.0001	0.00009	0.00143	0.00000	9.0859

Electricity Emission Factors

		Emission Factors (lb/kWhr)		
Source	Electricity Use Region	N_2O	CH_4	CO_2
Electricity Usage	California	0.000004	0.00003	0.5279

Recycling and Composting

Recycling and Composting Program	Percentage of Waste Recycled or Composted
	0

Electricity Use by Land Use

Source	kWhr/Unit per SQF)	
	Electricity	Lighting Electricity
Hotel	2.15	2.41
Pool	1.55	0.00
Parking Lot	0.00	0.88
Exterior Lighting	0.00	0.88

Natural Gas Use by Land Use

Source	kBtu/SQF
Hotel Natural Gas Use	40

Solid Waste Disposal Rate

Source	Region	Rate (tons/yr)
Hotel per Unit	Statewide	0.365

Solid Waste Emissions Factors

Landfill Type	CH_4 (tons/ton)	CO_2 (tons/ton)
No Landfill Gas Collection	0.042565854	0.143068564

Water Use Rates

				Water Use		
Source	Units or Square Feet	Indoor Water Use (gal/unit or gal/Square Feet per yr)	Outdoor Water Use (gal/unit or gal/Square Feet per yr)	Total Indoor Water Use (gal)	Total Outdoor Water Use (gal)	Total Water Use (gal)
Hotel	93	25,367	41,075	2,359,131	3,819,975	6,179,106
Pool	425	59	36	25,136	15,406	40,542
			Total	2,384,267	3,835,381	6,219,648

Wastewater Treatment

	Emission Factor (lb/gal)		
Source	N_2O	CH_4	CO_2
Project Site	0.0000019	0.000003	0.00086

Climate Zone	4

Notes:

- Equipment list and engine size estimated.
- Equipment criteria pollutant emission factors and load factors were obtained from CalEEMod, Appendix D 2020.
- N_2O emission factors for equipment were obtained from *CFR Part 98 Table C-2 and CalEEMod Appendix D- 20164.* Kg/mmbtu was converted to kg/bhp-hr using a diesel energy density of 7000 btu/hp-hr.
- CO_2 and CH_4 emission factors for construction equipment were obtained from *CalEEMod Appendix D 2020.*

` Vehicle emissions factors obtained from EMFAC-2021

- CO_2 , CH_4 and N_2O emission factors for equipment were obtained from CFR Part 98 Table C-2 and CalEEMod Appendix D 2020
- Solid waste and waste water emission factors and waste disposal rates obtained from CalEEMod Appendix D 2016
- Water use obtained from CalEEMod Appendix D 2020
- Waste disposal rates obtained from CalRecycle's estimated solid waste generation rates