Slover and Cactus Warehouse

ENERGY ANALYSIS

COUNTY OF SAN BERNARDINO

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LIST OF ABBREVIATED TERMS

(1)	Reference
AQIA	Air Quality Impact Analysis
ARB	Air Resources Board
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEC	California Energy Commission
CPUC	California Public Utilities Commission
EVs	Electric Vehicles
EMFAC	Emissions Factor
FERC	Federal Energy Regulatory Commission
GPA	General Plan Amendment
GWh	Gigawatt Hour
HHD	Heavy-Heavy Duty
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
LHD	Light-Heavy Duty
MHD	Medium-Heavy Duty
MPG	Miles Per Gallon
MPO	Metropolitan Planning Organization
Project	Slover and Cactus Warehouse
SCE	Southern California Edison
SoCalGas	Southern California Gas
SF	Square Feet
TEA-21	Transportation Equity Act for the 21st Century
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

The results of this *Slover and Cactus Warehouse Energy Analysis* is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). Table ES-1 shows the findings of significance for potential energy impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Energy Impact #1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	5.0	*Less Than Significant*	*n/a*
Energy Impact #2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	5.0	*Less Than Significant*	*n/a*

ES.1 MITIGATION MEASURES

The Project would not result in an efficient, wasteful, or unnecessary consumption of energy. As such, no mitigation measures are required.

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1 INTRODUCTION

This report presents the results of the air energy analysis prepared by Urban Crossroads, Inc., for the proposed Slover and Cactus Warehouse (referred to as "Project"). The purpose of this report is to ensure that energy implication is considered by the County of San Bernardino, as the lead agency, and to quantify anticipated energy usage associated with construction and operation of the proposed Project, determine if the usage amounts are efficient, typical, or wasteful for the land use type, and to emphasize avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

1.1 SITE LOCATION

The proposed Slover and Cactus Warehouse Project is located on the southwest corner of Cactus Avenue and Slover Avenue in unincorporated County of San Bernardino, as shown on Exhibit 1-A. The Project site is located roughly 150 feet south of an existing Union Pacific (UP) railroad yard and approximately 1,800 feet south of Interstate 10 (I-10). The Project site is mostly vacant, with three existing residential homes located in the western and southeastern portions of the site.

1.2 PROJECT DESCRIPTION

It is our understanding that the Project is proposed to consist of up to 257,855 square feet (sf) of warehouse use, as shown on Exhibit 1-B. For the purposes of this analysis, the Project is anticipated to be developed in a single phase with an Opening Year of 2020.

Per the *Slover and Cactus Warehouse Traffic Impact Analysis* (TIA) prepared by Urban Crossroads, Inc. the Project is expected to generate a net total of approximately 449 trip-ends per day (actual vehicles) (2). The net Project trip generation includes 90 truck trip-ends per day.

EXHIBIT 1-A: LOCATION MAP

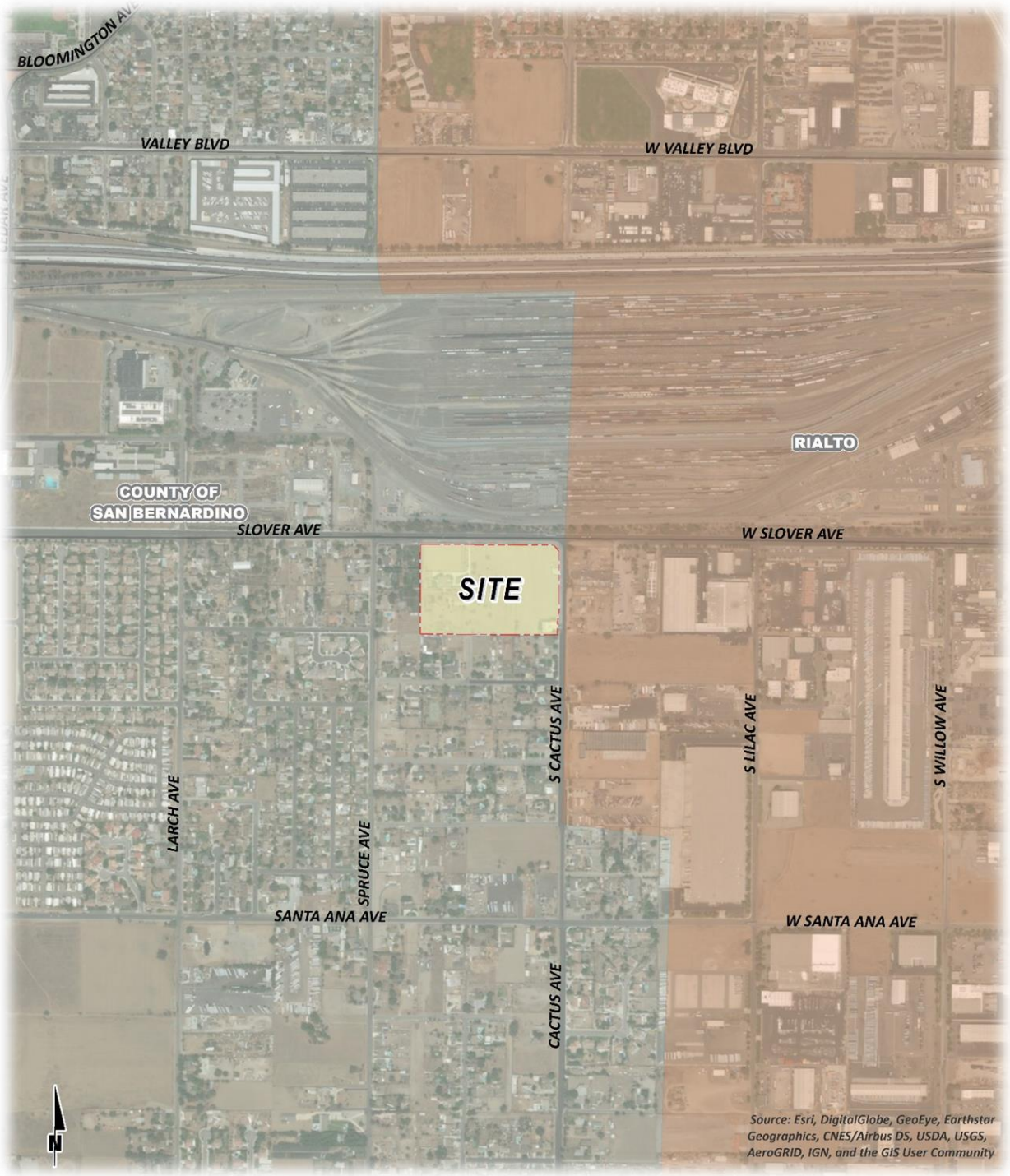
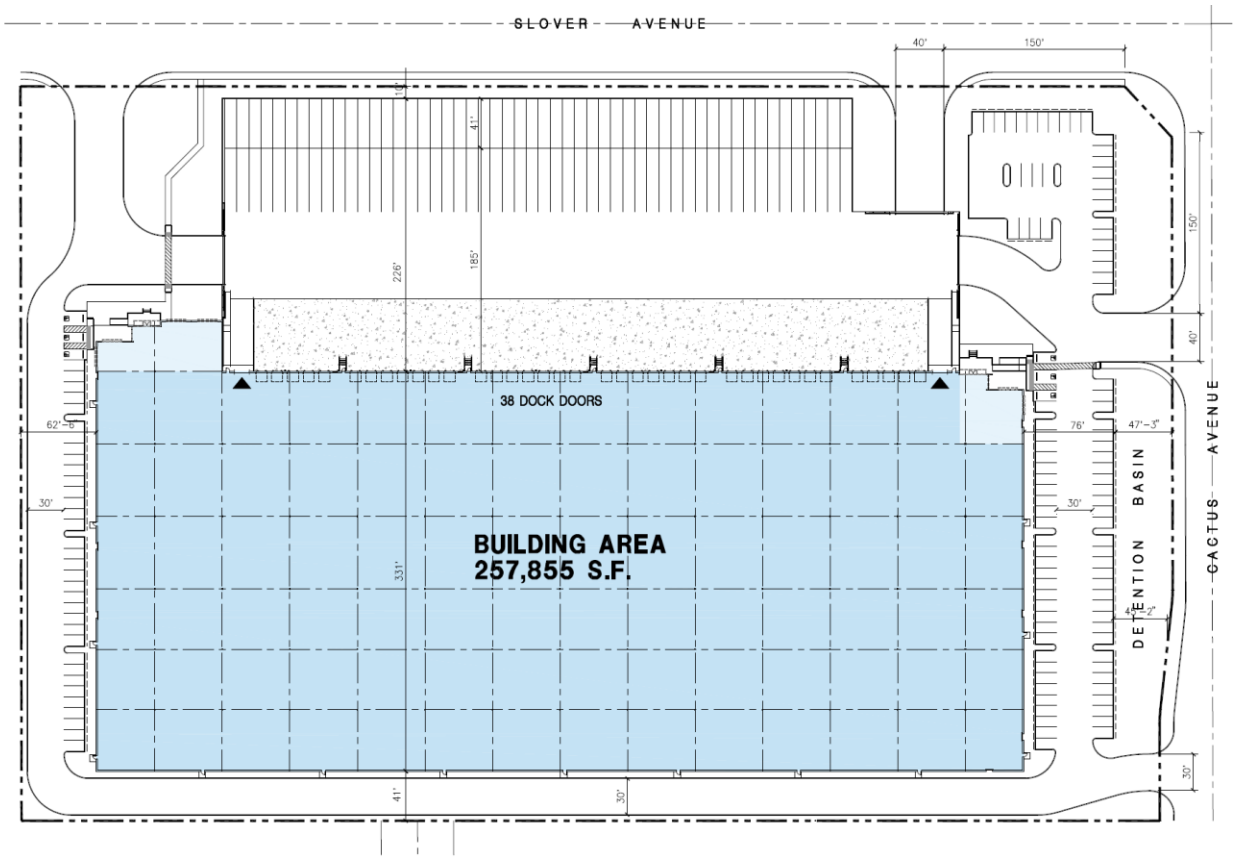


EXHIBIT 1-B: SITE PLAN



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2 EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the Project area and region.

2.1 OVERVIEW

The most recent data for California's estimated annual energy use is from 2016 and included:

- Approximately 7,830 trillion British Thermal Unit (BTU) of energy was consumed; (3);
- Approximately 2,115 billion cubic feet of natural gas (3); and
- Approximately 15.8 billion gallons of transportation fuel (for the year 2017) (4)

The most recent data provided by the United States Energy Information Administration (EIA) is from 2016 and illustrates energy use in California by demand sector as follows:

- Approximately 39.8 percent transportation;
- Approximately 23.7 percent industrial;
- Approximately 17.7 percent residential; and
- Approximately 18.9 percent commercial (5)

In 2017, total system electric generation for California was 292,039 gigawatt-hours (GWh). California's massive electricity in-state generation system generated approximately 206,336 GWh which accounted for approximately 71% of the electricity it uses; the rest was imported from the Pacific Northwest (14%) and the U.S. Southwest (16%) (6). Natural gas is the main source for electricity generation at 50% of the total in-state electric generation system power as shown in Table 2-1.

TABLE 2-1: TOTAL ELECTRICITY SYSTEM POWER (CALIFORNIA 2017)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	California Power Mix (GWh)	Percent California Power Mix
Coal	302	0.15%	409	11,364	12,075	4.13%
Large Hydro	36,920	17.89%	4531	1,536	42,987	14.72%
Natural Gas	89,564	43.40%	46	8,705	98,315	33.67%
Nuclear	17,925	8.69%	0	8,594	26,519	9.08%
Oil	33	0.02%	0	0	33	0.01%
Other	409	0.20%	0	0	409	0.14%
Renewables	61,183	29.65%	12,502	10,999	84,684	29.00%
Biomass	5,827	2.82%	1,015	32	6,874	2.35%
Geothermal	11,745	5.69%	23	937	12,705	4.35%
Small Hydro	6,413	3.11%	1449	5	7,867	2.70%
Solar	24,331	11.79%	0	5,465	29,796	10.20%
Wind	12,867	6.24%	10,015	4,560	27,442	9.40%
Unspecified Sources of Power	N/A	N/A	22,385	4,632	27,017	9.25%
Total	**206,336**	**100%**	**39,873**	**45,830**	**292,039**	**100%**

Source: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html

A summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the fourth-largest producer of crude oil among the 50 states in 2017, after Texas, North Dakota, and Alaska, and, as of January 2018, third in oil refining capacity after Texas and Louisiana.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2016.
- California's total energy consumption is second-highest in the nation, but, in 2016, the state's per capita energy consumption ranked 48th, due in part to its mild climate and its energy efficiency programs.
- In 2017, California ranked second in the nation in conventional hydroelectric generation and first as a producer of electricity from solar, geothermal, and biomass resources.
- In 2017, solar PV and solar thermal installations provided about 16% of California's net electricity generation (7).

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed Project being industrial uses, the remainder of this discussion will focus on the three

sources of energy that are most relevant to the project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with industrial uses planned for the Project.

2.2 ELECTRICITY

The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (San Onofre). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California ISO studies had revealed the extent to which the Southern California Air Basin (SCAB) and the San Diego Air Basin (SDAB) region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (2013 IEPR) after a collaborative process with other energy agencies, utilities, and air districts (8). If the resource development outlined in the preliminary plan continues as detailed, reliability in Southern California would likely be assured; however, tight resource margins have led energy agencies and the ARB to develop a contingency plan. This contingency plan was discussed at a public workshop in Los Angeles on August 20, 2014 and is detailed within this Section (9).

Electricity is provided to the Project by Southern California Edison (SCE). SCE provides electric power to more than 14 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers (10).

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California Independent Service Operator ("ISO") is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities [such as SCE] still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that sufficient power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities (11).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, transmission owners (investor-owned utilities such as SCE) file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the

State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Table 2-2 identifies SCE's specific proportional shares of electricity sources in 2017. As indicated in Table 2-2, the 2017 SCE Power Mix has renewable energy at 32% of the overall energy resources. Geothermal resources are at 8%, wind power is at 10%, large hydroelectric sources are at 8%, solar energy is at 13%, and coal is at 0%. Biomass and waste sources have decreased to 0% from 1% in 2016. Natural gas is at 20% having decreased from 19% in 2016 (12).

TABLE 2-2: SCE 2017 POWER CONTENT MIX

Energy Resources	2017 SCE Power Mix
Eligible Renewable	**32%**
Biomass & waste	0%
Geothermal	8%
Small Hydroelectric	1%
Solar	13%
Wind	10%
Coal	**0%**
Large Hydroelectric	**8%**
Natural Gas	**20%**
Nuclear	**6%**
Other	**0%**
Unspecified Sources of power*	34%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

2.3 NATURAL GAS

The usage associated with natural gas use were calculated using the CalEEMod model. The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

> "The California Public Utilities Commission (PUC) regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.
>
> The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers, who accounted for approximately 32% of the natural gas delivered by California utilities in 2012. Large

consumers, like electric generators and industrial customers, referred to as "noncore" customers, accounted for approximately 68% of the natural gas delivered by California utilities in 2012.

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. In 2012, California customers received 35% of their natural gas supply from basins located in the Southwest, 16% from Canada, 40% from the Rocky Mountains, and 9% from basins located within California. California gas utilities may soon also begin receiving biogas into their pipeline systems.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California consumers are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Questar Southern Trails and Mojave Pipeline. Another pipeline, the North Baja – Baja Norte Pipeline, takes gas off the El Paso Pipeline at the California/Arizona border, and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, the PUC often participates in FERC regulatory proceedings to represent the interests of California natural gas consumers.

Most of the natural gas transported via the interstate pipelines, as well as some of the California-produced natural gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered into the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline systems, while core customers and other noncore customers take natural gas off the utilities' distribution pipeline systems. The PUC has regulatory jurisdiction over 150,000 miles of utility-owned natural gas pipelines, which transported 82% of the total amount of natural gas delivered to California's gas consumers in 2012.

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, and currently receive all of their natural gas from the SoCalGas system (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area). Some other municipal wholesale customers are the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.

Some of the natural gas delivered to California customers may be delivered directly to them without being transported over the regulated utility systems. For example, the Kern River/Mojave pipeline system can deliver natural gas directly to some large customers, "bypassing" the utilities' systems. Much of California-produced natural gas is also delivered directly to large consumers.

PG&E and SoCalGas own and operate several natural gas storage fields that are located in northern and southern California. These storage fields, and four independently owned storage utilities – Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage – help meet peak seasonal natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently. (A portion of the Gill Ranch facility is owned by PG&E).

California's regulated utilities do not own any natural gas production facilities. All of the natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the FERC in the mid-1980's and is determined by "market forces." However, the PUC decides whether California's utilities have taken reasonable steps in order to minimize the cost of natural gas purchased on behalf of their core customers." (13)

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The PUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

2.4 TRANSPORTATION ENERGY RESOURCES

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. In March 2018, the Department of Motor Vehicles (DMV) identified 35 million registered vehicles in California (14), and those vehicles (as noted previously) consume an estimated 19 billion gallons of fuel each year[1]. Gasoline (and other vehicle fuels) are commercially-provided commodities and would be available to the Project patrons and employees via commercial outlets.

California's on-road transportation system includes 170,000 miles of highways and major roadways, more than 27 million passenger vehicles and light trucks, and almost 8 million medium- and heavy-duty vehicles (14). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. Petroleum comprises about 92 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels (15). Nearly 19 billion gallons of on-highway fuel are burned each year, including 15.1 billion gallons of gasoline (including ethanol) and 3.9 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2016, Californians also used 194 million therms of natural gas as a transportation fuel (16), or the equivalent of 155 million gallons of gasoline.

[1] Fuel consumptions estimated utilizing information from EMFAC2014.

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3 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below. Project consistency with applicable federal and state regulations is also presented in *italicized* text.

3.1 FEDERAL REGULATIONS

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions. *Transportation and access to the Project site is provided primarily by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Project site.*

The Transportation Equity Act for the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety*. The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.*

3.2 CALIFORNIA REGULATIONS

Integrated Energy Policy Report

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the California Energy Commission to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301a]). The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2016 Integrated Energy Policy Report (2016 IEPR) was published in February 2017, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2016 IEPR focuses on a variety of topics such as including the environmental performance of the electricity generation system, landscape-scale planning, the response to the gas leak at the Aliso Canyon natural gas storage facility, transportation fuel supply reliability issues, updates on Southern California electricity reliability, methane leakage, climate adaptation activities for the energy sector, climate and sea level rise scenarios, and the California Energy Demand Forecast (17). *Electricity would be provided to the Project by Southern California Edison (SCE). SCE's Clean Power and Electrification Pathway (CPEP) white paper builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2016 IEPR*.

State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access. *The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through the introduction of industrial uses on a residential/additional agricultural-designated site. The Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.*

California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2017 and is applicable to the Project.

The CEC indicates that the 2019 Title 24 standards will require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, update indoor and outdoor lighting for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards will use approximately 7 percent less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards will about 53 percent less energy than homes built under the 2016 standards. Nonresidential buildings will use approximately 30 percent less energy due to lighting upgrades (18). *The Project will design building shells and building components, such as windows; roof systems: electrical and lighting systems: and heating, ventilating, and air conditioning systems to meet 2019 Title 24 Standard.*

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

In compliance with Appendix G of the *State CEQA Guidelines* (1), this report analyzes the project's anticipated energy use to determine if the Project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

In addition, Appendix F of the *State CEQA Guidelines* (19), states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

4.2 METHODOLOGY

Information from the CalEEMod 2016.3.2 outputs for the *Slover and Cactus Warehouse Air Quality Impact Analysis* (Urban Crossroads, Inc., 2019) (2) was utilized in this analysis, detailing Project related construction equipment, transportation energy demands, and facility energy demands. These outputs can be referenced in Appendices 3.1 through 3.3.

4.3 CONSTRUCTION ENERGY DEMANDS

4.3.1 CONSTRUCTION EQUIPMENT ELECTRICITY USAGE ESTIMATES

The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed Project. Based on the 2017 National Construction Estimator, Richard Pray (2017) (20), the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.32. For the Slover and Cactus Warehouse development, the Project plans to develop 257,855 square feet of building space over the course of 11 months. Based on Table 4-1, the total power cost of the on-site electricity usage during the construction of the proposed Project is estimated to be approximately $6,580.59. Additionally, as of June 1, 2018, SCE's general service rate schedule (GS-1) for an industrial land uses is $0.07 per kWh of electricity (21). As shown on Table 4-2, the total electricity usage from on-site Project construction related activities is estimated to be approximately 94,008 kWh.

TABLE 4-1: PROJECT CONSTRUCTION POWER COST

Land Use	Power Cost (per 1,000 SF of building per month of construction)	Total Building Size (1,000 SF)	Construction Duration (months)	Project Construction Power Cost
Warehouse	$2.32	257.860	11	$6,580.59
TOTAL PROJECT CONSTRUCTION POWER COST				***$6,580.59***

TABLE 4-2: PROJECT CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
Warehouse	$0.07	94,008
TOTAL PROJECT CONSTURCTION ELECTRICTY USAGE (kWh)		***94,008***

[1]Assumes the Project will be under the GS-1 General Industrial service rate under SCE

4.3.2 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4-3. Eight-hour daily use of all equipment is assumed. The aggregate fuel consumption rate for all equipment is estimated at 18.5 hp-hr-gal., obtained from California Air Resources Board (ARB) 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (22). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is standard practice consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the County and region.

As presented in Table 4-3, Project construction activities would consume an estimated 51,432 gallons of diesel fuel. Project construction would represent a “single-event” diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

TABLE 4-3: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Activity/Duration	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Demolition (20 days)	Concrete/Industrial Saws	81	1	8	0.73	473	511
	Excavators	158	3	8	0.38	1,441	1,558
	Rubber Tired Dozers	247	2	8	0.40	1,581	1,709
Site Preparation (10 days)	Crawler Tractors	212	4	8	0.43	2,917	1,577
	Rubber Tired Dozers	247	3	8	0.40	2,371	1,282
Grading (30 days)	Crawler Tractors	212	2	8	0.43	1,459	2,365
	Excavators	158	2	8	0.38	961	1,558
	Graders	187	1	8	0.41	613	995
	Rubber Tired Dozers	247	1	8	0.40	790	1,282
	Scrapers	367	2	8	0.48	2,819	4,571
Building Construction (150 days)	Cranes	231	1	8	0.29	536	4,345
	Crawler Tractors	212	3	8	0.43	2,188	17,739
	Forklifts	89	3	8	0.20	427	3,464
	Generator Sets	84	1	8	0.74	497	4,032
	Welders	46	1	8	0.45	166	1,343
Paving (20 days)	Pavers	130	2	8	0.42	874	944
	Paving Equipment	132	2	8	0.36	760	822
	Rollers	80	2	8	0.38	486	526
Architectural Coating (50 days)	Air Compressors	78	1	8	0.48	300	810
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)							***51,432***

4.3.3 CONSTRUCTION WORKER FUEL ESTIMATES

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 410,571 VMT (2). Data regarding Project related construction worker trips were based on CalEEMod 2016.3.2 model defaults utilized within the AQIA.

Vehicle fuel efficiencies for LDA were estimated using information generated within the 2014 version of the Emissions FACtor model (EMFAC) developed by the Air Resources Board (ARB). EMFAC 2014 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the ARB to project changes in future emissions from on-road mobile sources (23). EMFAC 2014 was run for the LDA vehicle class within the California sub-area for a 2020 calendar year. Data from EMFAC 2014 is shown in Appendix 3.4.

As generated by EMFAC 2014, an aggregated fuel economy of LDAs ranging from model year 1974 to model year 2020 are estimated to have a fuel efficiency of 28.57 miles per gallon (mpg). Table 4-4 provides an estimated annual fuel consumption resulting from the Project generated by light duty autos related to construction worker trips. Based on Table 4-4, it is estimated that 14,795 gallons of fuel will be consumed related to construction worker trips during full construction of the proposed Project. Project construction worker trips would represent a "single-event" gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

TABLE 4-4: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES

Construction Activity	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Demolition (20 days)	15	14.7	4,410	28.57	154
Site Preparation (10 days)	18	14.7	2,646	28.57	93
Grading (30 days)	20	14.7	8,820	28.57	309
Building Construction (150 days)	166	14.7	366,030	28.57	12,810
Architectural Coating (50 days)	33	14.7	24,255	28.57	849
Paving (20 days)	15	14.7	4,410	28.57	154
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION					**14,795**

4.3.4 CONSTRUCTION VENDOR/HAULING FUEL ESTIMATES

With respect to estimated VMT, the construction vendor/hauling trips would generate an estimated 3,968,754 VMT along area roadways (2). It is assumed that 50% of all vendor trips are from medium-heavy duty trucks (MHD) and 50% are from heavy-heavy duty trucks (HHD). It is assumed that 100% of all hauling trips are from HHD. These assumptions are consistent with the 2016.3.2 CalEEMod defaults utilized within the within the AQIA (2). Vehicle fuel efficiencies for MHD and HHD trucks were estimated using information generated within EMFAC 2014. For purposes of this analysis, EMFAC 2014 was run for the MHD and HHD vehicle class within the California sub-area for a 2020 calendar year. Data from EMFAC 2014 is shown in Appendix 3.4.

As generated by EMFAC 2014, an aggregated fuel economy of MHD trucks ranging from model year 1974 to model year 2020 are estimated to have a fuel efficiency of 8.50 mpg. Additionally, HHD trucks are estimated to have a fuel efficiency of 5.85 mpg. Based on Table 4-5, it is estimated that 3,958 gallons of fuel will be consumed related to construction vendor trips (medium duty trucks) during full construction of the proposed Project. Table 4-6 shows the estimated fuel economy of HHD trucks accessing the Project site. Based on Table 4-6, fuel consumption from construction vendor and hauling trips (heavy duty trucks) will total approximately 7,939 gallons. The total fuel consumption from construction vendor and hauling trips (medium and heavy-duty trucks) is 11,896 gallons. Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

TABLE 4-5: CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES (MHD TRUCKS)

Construction Activity	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Vendor					
Building Construction (150 days)	32.5	6.9	33,638	8.50	3,958
PROJECT MEDIUM DUTY TRUCK TOTAL					***3,958***

TABLE 4-6: CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION ESTIMATES (HHD TRUCKS)

Construction Activity	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Vendor					
Building Construction (150 days)	32.5	6.9	33,638	5.85	5,750
Hauling					
Demolition (20 days)	32	20	12,800	5.85	2,188
PROJECT HEAVY DUTY TRUCK TOTAL					***7,939***

4.3.5 CONSTRUCTION ENERGY EFFICIENCY/CONSERVATION MEASURES

The equipment used for Project construction would conform to CARB regulations and CA emissions standards. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The Project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additionally, certain incidental construction-source energy efficiencies would likely accrue through implementation of California regulations and best available control measures (BACM). More specifically, California Code of Regulations Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. To this end, “grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling.” In this manner, construction equipment operators are informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Indirectly, construction energy efficiencies and energy conservation would be achieved for the proposed development through energy efficiencies realized from bulk purchase, transport and use of construction materials.

A full analysis related to the energy needed to form construction materials is not included in this analysis due to a lack of detailed Project-specific information on construction materials. At this time, an analysis of the energy needed to create Project-related construction materials would be extremely speculative and thus has not been prepared.

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary

reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

4.3.6 SUMMARY

The estimated power cost of on-site electricity usage during the construction of the proposed Project is assumed to be around $6,580.59. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project build-out, is calculated to be around 94,008 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 51,432 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Best available control measures inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by County building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the proposed Project would result in the estimated fuel consumption of 14,369 gallons of fuel. Additionally, fuel consumption from construction vendor trips (medium and heavy-duty trucks) will total approximately 11,896 gallons. Diesel fuel would be supplied by County and regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved through the use of bulk purchases, transport and use of construction materials. The 2016 IEPR released by the California Energy Commission has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements (24). As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

4.4 OPERATIONAL ENERGY DEMANDS

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

4.4.1 TRANSPORTATION ENERGY DEMANDS

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site.

LIGHT DUTY AUTOS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 1,595,902 annual VMT along area roadways for all passenger cars with full build-out of the Project (2). As generated by EMFAC 2014, an aggregated fuel economy of LDAs ranging from model year 1974 to model year 2020 are estimated to have a fuel efficiency of 28.57 mpg. Table 4-7 provides an estimated range of annual fuel consumption resulting from Project generated LDAs. Based on Table 4-7, it is estimated that 55,852 gallons of fuel will be consumed from Project generated LDA trips.

TABLE 4-7: PROJECT-GENERATED PASSENGER CAR TRAFFIC ANNUAL FUEL CONSUMPTION

Annual Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
1,595,902	28.57	55,852

LIGHT-HEAVY DUTY TRUCKS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 217,801 annual VMT along area roadways for all LHD trucks with full build-out of the Project (2). As generated by EMFAC 2014, an aggregated fuel economy of LHD trucks ranging from model year 1974 to model year 2020 are estimated to have a fuel efficiency of 14.08 mpg. Table 4-8 provides an estimated range of annual fuel consumption resulting from Project generated LHD trucks. Based on Table 4-8, it is estimated that 15,467 gallons of fuel will be consumed from Project generated LHD truck trips.

TABLE 4-8: PROJECT-GENERATED LHD TRUCK TRAFFIC ANNUAL FUEL CONSUMPTION

Annual Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
217,801	14.08	15,467

MEDIUM-HEAVY DUTY TRUCKS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 270,324 annual VMT along area roadways for all MHD trucks with full build-out of the Project (2). As generated by EMFAC 2014, an aggregated fuel economy of MHD trucks ranging from model year 1974 to model year 2020 are estimated to have a fuel efficiency of 8.50 mpg. Table 4-9 provides an estimated range of annual fuel consumption resulting from Project generated MHD trucks. Based on Table 4-9, it is estimated that 31,805 gallons of fuel will be consumed from Project generated MHD truck trips.

TABLE 4-9: PROJECT-GENERATED MHD TRUCK TRAFFIC ANNUAL FUEL CONSUMPTION

Annual Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
270,324	8.50	31,805

HEAVY-HEAVY DUTY TRUCKS

With respect to estimated VMT, and based on the trip frequency and trip length methodologies cited in the Project's AQIA, the Project would generate an estimated 818,420 annual VMT along area roadways for all HHD trucks with full build-out of the Project (2). As generated by EMFAC 2014, an aggregated fuel economy of HHD trucks ranging from model year 1974 to model year 2020 are estimated to have a fuel efficiency of 5.85 mpg. Table 4-10 provides an estimated range of annual fuel consumption resulting from Project generated HHD trucks. Based on Table 4-10, it is estimated that 139,910 gallons of fuel will be consumed from Project generated HHD truck trips.

TABLE 4-10: PROJECT-GENERATED HHD TRUCK TRAFFIC ANNUAL FUEL CONSUMPTION

Annual Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
818,420	5.85	139,910

As summarized on Table 4-11, the Project will result in 2,902,448 annual VMT and an estimated annual fuel consumption of 243,034 gallons of fuel.

TABLE 4-11: PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION (ALL VEHICLES)

Vehicle Type	Annual Miles Traveled	Estimated Annual Fuel Consumption (gallons)
Light Duty Autos	1,595,902	55,852
LHD Trucks	217,801	15,467
MHD Trucks	270,324	31,805
HHD Trucks	818,420	139,910
Total (All Vehicles)	***2,902,448***	***243,034***

4.4.2 FACILITY ENERGY DEMANDS

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by Southern California Gas Company; electricity would be supplied to the Project by Southern California Edison. Annual natural gas and electricity demands of the Project are summarized in Table 4-12.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting (25). Non-building energy use, or "plug-in" energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.).

TABLE 4-12: PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Natural Gas Demand	**kBTU/year**
Parking Lot	0
Unrefrigerated Warehouse – No Rail	523,446
Total Project Natural Gas Demand	**523,446**
Electricity Demand	**kWh/year**
Parking Lot	47,880
Unrefrigerated Warehouse – No Rail	608,538
Total Project Electricity Demand	**656,418**

4.4.3 OPERATIONAL ENERGY EFFICIENCY/CONSERVATION MEASURES

Energy efficient/energy conserving design features and operational programs that would be implemented under the Project are summarized below. Also noted in the following discussions, energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title24, California Green Building Standards Code).

The Project would also not result in a substantial increase in demand or transmission service, resulting in the need for new or expanded sources of energy supply or new or expanded energy delivery systems or infrastructure.

Enhanced Vehicle Fuel Efficiencies

Estimated annual fuel consumption estimates presented previously in Tables 4-11 represent likely potential maximums that would occur in the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

4.5 SUMMARY

4.5.1 TRANSPORTATION ENERGY DEMANDS

Annual vehicular trips and related VMT generated by the Project would result in an estimated 55,852 gallons of fuel consumption per year for LDAs. Additionally, the Project would result in an estimated 15,467 gallons of fuel consumption per year for LHD trucks. For MHD trucks, the Project would result in an estimated 31,805 gallons of fuel consumption per year. For HHD trucks an estimated 139,910 gallons of fuel consumption per year is estimated for the year 2020. The total estimated annual fuel consumption from Project generated VMT would result in a fuel demand 243,034 gallons of fuel.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other warehouse uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip

Generation Manual (10th Ed., 2017); and California Emissions Estimator Model (CalEEMod) v2016.3.2. That is, the Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of LDAs and LHDs to alternative energy sources (e.g., electricity, natural gas, bio fuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

4.5.2 FACILITY ENERGY DEMANDS

Project facility operational energy demands are estimated at: 523,446 kBTU/year of natural gas; and 656,418 kWh/year of electricity. Natural gas would be supplied to the Project by Southern California Gas Company; electricity would be supplied by Southern California Edison. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the Project are not inherently energy intensive, and the Project energy demands in total would be comparable to, or less than, other industrial projects of similar scale and configuration.

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5 CONCLUSION

***Impact Energy-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation*.**

As supported by the preceding analyses, Project operations would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the energy demands of the Project can be accommodated within the context of available resources and energy delivery systems. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California.

***Impact Energy-1: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency*.**

The Project would provide for, and promote, energy efficiencies beyond those required under other applicable federal and State of California standards and regulations, and in so doing would meet or exceed all California Building Standards Code Title 24 standards. Moreover, energy consumed by the Project's operation is calculated to be comparable to, or less than, energy consumed by other industrial uses of similar scale and intensity that are constructed and operating in California. On this basis, the Project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Further, the Project would not cause or result in the need for additional energy producing facilities or energy delivery systems.

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6 REFERENCES

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7 CERTIFICATION

The contents of this energy report represent an accurate depiction of the environmental impacts associated with the proposed Slover and Cactus Warehouse Project. The information contained in this energy report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5987.

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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May, 2010

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University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013
Planned Communities and Urban Infill – Urban Land Institute • June, 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August, 2007
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Air Dispersion Modeling – Lakes Environmental • June, 2006

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APPENDIX 3.1:

CALEEMOD ANNUAL CONSTRUCTION EMISSIONS MODEL OUTPUTS

Slover and Cactus Warehouse (Construction - Mitigated)

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	257.86	1000sqft	10.19	257,855.00	0
Parking Lot	342.00	Space	3.08	136,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Slover and Cactus Warehouse (Construction - Mitigated) - San Bernardino-South Coast County, Annual

Project Characteristics -

Land Use - Lot Acreage based on Site Plan. Number of Parking Spaces based on the provided 134 standard stalls + 104 trailer parking (208 standard stalls) = 342 standard spaces

Construction Phase - Construction Schedule adjusted as per information provided by the Client.

Off-road Equipment - Hours are based on an 8-hour workday.

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Off-road Equipment -

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes.

Demolition -

Grading -

Vehicle Trips - Construction (Mitigated) Run Only.

Energy Use - Construction (Mitigated) Run Only.

Water And Wastewater - Construction (Mitigated) Run Only.

Solid Waste - Construction (Mitigated) Run Only.

Construction Off-road Equipment Mitigation - All equipment operating at >150 HP during Site Preparation are required to be equiped with Tier 3 or better engines.

Architectural Coating - Rule 1113

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Parking	100.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	300.00	150.00

tblConstructionPhase	NumDays	20.00	50.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	1.17	0.00
tblEnergyUse	NT24E	0.82	0.00
tblEnergyUse	NT24NG	0.03	0.00
tblEnergyUse	T24E	0.37	0.00
tblEnergyUse	T24NG	2.00	0.00
tblLandUse	LandUseSquareFeet	257,860.00	257,855.00
tblLandUse	LotAcreage	5.92	10.19
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	242.39	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	0.00

tblVehicleTrips	ST_TR	1.68	0.00
tblVehicleTrips	SU_TR	1.68	0.00
tblVehicleTrips	WD_TR	1.68	0.00
tblWater	IndoorWaterUseRate	59,630,125.00	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					
2019	0.1330	1.4953	0.7650	1.5900e-003	0.2379	0.0649	0.3028	0.0985	0.0599	0.1585	0.0000	143.1667	143.1667	0.0423	0.0000	144.2252
2020	0.9823	3.7030	2.3338	6.4700e-003	0.2523	0.1448	0.3971	0.0641	0.1353	0.1994	0.0000	578.5379	578.5379	0.1024	0.0000	581.0976
Maximum	**0.9823**	**3.7030**	**2.3338**	**6.4700e-003**	**0.2523**	**0.1448**	**0.3971**	**0.0985**	**0.1353**	**0.1994**	**0.0000**	**578.5379**	**578.5379**	**0.1024**	**0.0000**	**581.0976**

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					
2019	0.1031	1.2240	0.8017	1.5900e-003	0.0962	0.0516	0.1478	0.0393	0.0482	0.0875	0.0000	143.1665	143.1665	0.0423	0.0000	144.2250
2020	0.9418	3.3142	2.5051	6.4700e-003	0.2074	0.1301	0.3374	0.0544	0.1229	0.1773	0.0000	578.5375	578.5375	0.1024	0.0000	581.0972
Maximum	**0.9418**	**3.3142**	**2.5051**	**6.4700e-003**	**0.2074**	**0.1301**	**0.3374**	**0.0544**	**0.1229**	**0.1773**	**0.0000**	**578.5375**	**578.5375**	**0.1024**	**0.0000**	**581.0972**

	ROG	NOx	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	**6.31**	**12.70**	**-6.72**	**0.00**	**38.09**	**13.39**	**30.69**	**42.38**	**12.37**	**26.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-17-2019	1-16-2020	1.9666	1.6268
2	1-17-2020	4-16-2020	1.5786	1.4026
3	4-17-2020	7-16-2020	1.5790	1.4029
4	7-17-2020	9-30-2020	1.1659	1.1272
		Highest	1.9666	1.6268

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	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	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	**1.0628**	**7.0000e-005**	**7.7000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

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	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	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	**1.0628**	**7.0000e-005**	**7.7000e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

	ROG	NOx	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

Slover and Cactus Warehouse (Construction - Mitigated) - San Bernardino-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/17/2019	11/13/2019	5	20	
2	Site Preparation	Site Preparation	11/14/2019	11/27/2019	5	10	
3	Grading	Grading	11/28/2019	1/8/2020	5	30	
4	Building Construction	Building Construction	1/9/2020	8/5/2020	5	150	
5	Architectural Coating	Architectural Coating	7/20/2020	9/25/2020	5	50	
6	Paving	Paving	8/6/2020	9/2/2020	5	20	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 105

Acres of Paving: 3.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 386,783; Non-Residential Outdoor: 128,928; Striped Parking Area: 8,208 (Architectural Coating – sqft)

OffRoad Equipment

Slover and Cactus Warehouse (Construction - Mitigated) - San Bernardino-South Coast 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	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	2	8.00	212	0.43
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	0	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Crawler Tractors	3	8.00	212	0.43
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	8.00	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	8.00	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	32.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	166.00	65.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	33.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 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					
Fugitive Dust					3.4800e-003	0.0000	3.4800e-003	5.3000e-004	0.0000	5.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8672
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**	**3.4800e-003**	**0.0180**	**0.0214**	**5.3000e-004**	**0.0167**	**0.0172**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8672**

3.2 Demolition - 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	1.1000e-004	4.3400e-003	6.5000e-004	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.2078	1.2078	7.0000e-005	0.0000	1.2096
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	8.0000e-004	6.6000e-004	6.4600e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4551	1.4551	5.0000e-005	0.0000	1.4563
Total	**9.1000e-004**	**5.0000e-003**	**7.1100e-003**	**3.0000e-005**	**1.9200e-003**	**2.0000e-005**	**1.9500e-003**	**5.2000e-004**	**2.0000e-005**	**5.4000e-004**	**0.0000**	**2.6629**	**2.6629**	**1.2000e-004**	**0.0000**	**2.6659**

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					1.3600e-003	0.0000	1.3600e-003	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0259	0.2775	0.2231	3.9000e-004		0.0136	0.0136		0.0128	0.0128	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8671
Total	**0.0259**	**0.2775**	**0.2231**	**3.9000e-004**	**1.3600e-003**	**0.0136**	**0.0150**	**2.1000e-004**	**0.0128**	**0.0130**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8671**

3.2 Demolition - 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	1.1000e-004	4.3400e-003	6.5000e-004	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.2078	1.2078	7.0000e-005	0.0000	1.2096
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	8.0000e-004	6.6000e-004	6.4600e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4551	1.4551	5.0000e-005	0.0000	1.4563
Total	**9.1000e-004**	**5.0000e-003**	**7.1100e-003**	**3.0000e-005**	**1.9200e-003**	**2.0000e-005**	**1.9500e-003**	**5.2000e-004**	**2.0000e-005**	**5.4000e-004**	**0.0000**	**2.6629**	**2.6629**	**1.2000e-004**	**0.0000**	**2.6659**

3.3 Site Preparation - 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					
Fugitive Dust					0.1009	0.0000	0.1009	0.0508	0.0000	0.0508	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0292	0.3410	0.1159	2.8000e-004		0.0149	0.0149		0.0137	0.0137	0.0000	25.6072	25.6072	8.1000e-003	0.0000	25.8097
Total	**0.0292**	**0.3410**	**0.1159**	**2.8000e-004**	**0.1009**	**0.0149**	**0.1158**	**0.0508**	**0.0137**	**0.0645**	**0.0000**	**25.6072**	**25.6072**	**8.1000e-003**	**0.0000**	**25.8097**

3.3 Site Preparation - 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	4.8000e-004	3.9000e-004	3.8800e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8731	0.8731	3.0000e-005	0.0000	0.8738
Total	**4.8000e-004**	**3.9000e-004**	**3.8800e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8731**	**0.8731**	**3.0000e-005**	**0.0000**	**0.8738**

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					0.0394	0.0000	0.0394	0.0198	0.0000	0.0198	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0186	0.2432	0.1318	2.8000e-004		0.0102	0.0102		9.5600e-003	9.5600e-003	0.0000	25.6072	25.6072	8.1000e-003	0.0000	25.8097
Total	**0.0186**	**0.2432**	**0.1318**	**2.8000e-004**	**0.0394**	**0.0102**	**0.0496**	**0.0198**	**9.5600e-003**	**0.0294**	**0.0000**	**25.6072**	**25.6072**	**8.1000e-003**	**0.0000**	**25.8097**

3.3 Site Preparation - 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	4.8000e-004	3.9000e-004	3.8800e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8731	0.8731	3.0000e-005	0.0000	0.8738
Total	**4.8000e-004**	**3.9000e-004**	**3.8800e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8731**	**0.8731**	**3.0000e-005**	**0.0000**	**0.8738**

3.4 Grading - 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					
Fugitive Dust					0.1279	0.0000	0.1279	0.0457	0.0000	0.0457	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0659	0.7900	0.4072	8.6000e-004		0.0321	0.0321		0.0295	0.0295	0.0000	77.0690	77.0690	0.0244	0.0000	77.6786
Total	**0.0659**	**0.7900**	**0.4072**	**8.6000e-004**	**0.1279**	**0.0321**	**0.1600**	**0.0457**	**0.0295**	**0.0753**	**0.0000**	**77.0690**	**77.0690**	**0.0244**	**0.0000**	**77.6786**

3.4 Grading - 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	1.2900e-003	1.0500e-003	0.0103	3.0000e-005	2.6300e-003	2.0000e-005	2.6500e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.3282	2.3282	8.0000e-005	0.0000	2.3301
Total	**1.2900e-003**	**1.0500e-003**	**0.0103**	**3.0000e-005**	**2.6300e-003**	**2.0000e-005**	**2.6500e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.3282**	**2.3282**	**8.0000e-005**	**0.0000**	**2.3301**

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					0.0499	0.0000	0.0499	0.0178	0.0000	0.0178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0560	0.6968	0.4256	8.6000e-004		0.0278	0.0278		0.0258	0.0258	0.0000	77.0689	77.0689	0.0244	0.0000	77.6785
Total	**0.0560**	**0.6968**	**0.4256**	**8.6000e-004**	**0.0499**	**0.0278**	**0.0777**	**0.0178**	**0.0258**	**0.0436**	**0.0000**	**77.0689**	**77.0689**	**0.0244**	**0.0000**	**77.6785**

3.4 Grading - 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	1.2900e-003	1.0500e-003	0.0103	3.0000e-005	2.6300e-003	2.0000e-005	2.6500e-003	7.0000e-004	2.0000e-005	7.2000e-004	0.0000	2.3282	2.3282	8.0000e-005	0.0000	2.3301
Total	**1.2900e-003**	**1.0500e-003**	**0.0103**	**3.0000e-005**	**2.6300e-003**	**2.0000e-005**	**2.6500e-003**	**7.0000e-004**	**2.0000e-005**	**7.2000e-004**	**0.0000**	**2.3282**	**2.3282**	**8.0000e-005**	**0.0000**	**2.3301**

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					0.0737	0.0000	0.0737	0.0159	0.0000	0.0159	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0156	0.1827	0.0972	2.1000e-004		7.4100e-003	7.4100e-003		6.8100e-003	6.8100e-003	0.0000	18.8471	18.8471	6.1000e-003	0.0000	18.9994
Total	**0.0156**	**0.1827**	**0.0972**	**2.1000e-004**	**0.0737**	**7.4100e-003**	**0.0812**	**0.0159**	**6.8100e-003**	**0.0228**	**0.0000**	**18.8471**	**18.8471**	**6.1000e-003**	**0.0000**	**18.9994**

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	3.0000e-004	2.3000e-004	2.3300e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5639	0.5639	2.0000e-005	0.0000	0.5643
Total	**3.0000e-004**	**2.3000e-004**	**2.3300e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5639**	**0.5639**	**2.0000e-005**	**0.0000**	**0.5643**

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					0.0288	0.0000	0.0288	6.2200e-003	0.0000	6.2200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.1619	0.1022	2.1000e-004		6.4400e-003	6.4400e-003		5.9700e-003	5.9700e-003	0.0000	18.8470	18.8470	6.1000e-003	0.0000	18.9994
Total	**0.0132**	**0.1619**	**0.1022**	**2.1000e-004**	**0.0288**	**6.4400e-003**	**0.0352**	**6.2200e-003**	**5.9700e-003**	**0.0122**	**0.0000**	**18.8470**	**18.8470**	**6.1000e-003**	**0.0000**	**18.9994**

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	3.0000e-004	2.3000e-004	2.3300e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5639	0.5639	2.0000e-005	0.0000	0.5643
Total	**3.0000e-004**	**2.3000e-004**	**2.3300e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5639**	**0.5639**	**2.0000e-005**	**0.0000**	**0.5643**

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	0.2522	2.7508	1.3972	3.2300e-003		0.1228	0.1228		0.1147	0.1147	0.0000	279.9499	279.9499	0.0767	0.0000	281.8684
Total	**0.2522**	**2.7508**	**1.3972**	**3.2300e-003**		**0.1228**	**0.1228**		**0.1147**	**0.1147**	**0.0000**	**279.9499**	**279.9499**	**0.0767**	**0.0000**	**281.8684**

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	0.0151	0.5204	0.1088	1.3000e-003	0.0307	2.3800e-003	0.0331	8.8700e-003	2.2800e-003	0.0112	0.0000	124.4671	124.4671	8.6100e-003	0.0000	124.6824
Worker	0.0615	0.0483	0.4829	1.3000e-003	0.1365	9.1000e-004	0.1374	0.0363	8.4000e-004	0.0371	0.0000	117.0076	117.0076	3.5100e-003	0.0000	117.0955
Total	**0.0766**	**0.5688**	**0.5917**	**2.6000e-003**	**0.1673**	**3.2900e-003**	**0.1705**	**0.0451**	**3.1200e-003**	**0.0483**	**0.0000**	**241.4747**	**241.4747**	**0.0121**	**0.0000**	**241.7778**

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	0.2140	2.3827	1.5635	3.2300e-003		0.1090	0.1090		0.1031	0.1031	0.0000	279.9496	279.9496	0.0767	0.0000	281.8681
Total	**0.2140**	**2.3827**	**1.5635**	**3.2300e-003**		**0.1090**	**0.1090**		**0.1031**	**0.1031**	**0.0000**	**279.9496**	**279.9496**	**0.0767**	**0.0000**	**281.8681**

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	0.0151	0.5204	0.1088	1.3000e-003	0.0307	2.3800e-003	0.0331	8.8700e-003	2.2800e-003	0.0112	0.0000	124.4671	124.4671	8.6100e-003	0.0000	124.6824
Worker	0.0615	0.0483	0.4829	1.3000e-003	0.1365	9.1000e-004	0.1374	0.0363	8.4000e-004	0.0371	0.0000	117.0076	117.0076	3.5100e-003	0.0000	117.0955
Total	**0.0766**	**0.5688**	**0.5917**	**2.6000e-003**	**0.1673**	**3.2900e-003**	**0.1705**	**0.0451**	**3.1200e-003**	**0.0483**	**0.0000**	**241.4747**	**241.4747**	**0.0121**	**0.0000**	**241.7778**

3.6 Architectural Coating - 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					
Archit. Coating	0.6071					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0700e-003	0.0561	0.0611	1.0000e-004		3.7000e-003	3.7000e-003		3.7000e-003	3.7000e-003	0.0000	8.5109	8.5109	6.6000e-004	0.0000	8.5273
Total	**0.6152**	**0.0561**	**0.0611**	**1.0000e-004**		**3.7000e-003**	**3.7000e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**8.5109**	**8.5109**	**6.6000e-004**	**0.0000**	**8.5273**

3.6 Architectural Coating - 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	4.0800e-003	3.2000e-003	0.0320	9.0000e-005	9.0500e-003	6.0000e-005	9.1100e-003	2.4000e-003	6.0000e-005	2.4600e-003	0.0000	7.7535	7.7535	2.3000e-004	0.0000	7.7593
Total	**4.0800e-003**	**3.2000e-003**	**0.0320**	**9.0000e-005**	**9.0500e-003**	**6.0000e-005**	**9.1100e-003**	**2.4000e-003**	**6.0000e-005**	**2.4600e-003**	**0.0000**	**7.7535**	**7.7535**	**2.3000e-004**	**0.0000**	**7.7593**

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	0.6071					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0700e-003	0.0561	0.0611	1.0000e-004		3.7000e-003	3.7000e-003		3.7000e-003	3.7000e-003	0.0000	8.5108	8.5108	6.6000e-004	0.0000	8.5273
Total	**0.6152**	**0.0561**	**0.0611**	**1.0000e-004**		**3.7000e-003**	**3.7000e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**8.5108**	**8.5108**	**6.6000e-004**	**0.0000**	**8.5273**

3.6 Architectural Coating - 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	4.0800e-003	3.2000e-003	0.0320	9.0000e-005	9.0500e-003	6.0000e-005	9.1100e-003	2.4000e-003	6.0000e-005	2.4600e-003	0.0000	7.7535	7.7535	2.3000e-004	0.0000	7.7593
Total	**4.0800e-003**	**3.2000e-003**	**0.0320**	**9.0000e-005**	**9.0500e-003**	**6.0000e-005**	**9.1100e-003**	**2.4000e-003**	**6.0000e-005**	**2.4600e-003**	**0.0000**	**7.7535**	**7.7535**	**2.3000e-004**	**0.0000**	**7.7593**

3.7 Paving - 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	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1902
Paving	4.0300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0176**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1902**

3.7 Paving - 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	7.4000e-004	5.8000e-004	5.8200e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4097	1.4097	4.0000e-005	0.0000	1.4108
Total	**7.4000e-004**	**5.8000e-004**	**5.8200e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4097**	**1.4097**	**4.0000e-005**	**0.0000**	**1.4108**

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	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1901
Paving	4.0300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0176**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1901**

3.7 Paving - 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	7.4000e-004	5.8000e-004	5.8200e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4097	1.4097	4.0000e-005	0.0000	1.4108
Total	**7.4000e-004**	**5.8000e-004**	**5.8200e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.4097**	**1.4097**	**4.0000e-005**	**0.0000**	**1.4108**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.546179	0.037976	0.179086	0.122965	0.018430	0.005460	0.017497	0.061396	0.001337	0.001657	0.006117	0.000817	0.001082
Unrefrigerated Warehouse-No Rail	0.546179	0.037976	0.179086	0.122965	0.018430	0.005460	0.017497	0.061396	0.001337	0.001657	0.006117	0.000817	0.001082

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					
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
Unrefrigerated Warehouse-No Rail	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**

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					
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
Unrefrigerated Warehouse-No Rail	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			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	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	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Unmitigated	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159

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	0.1214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2000e-004	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Total	**1.0627**	**7.0000e-005**	**7.7000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

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	0.1214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2000e-004	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Total	**1.0627**	**7.0000e-005**	**7.7000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

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			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	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			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	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			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	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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APPENDIX 3.2:

CALEEMOD ANNUAL OPERATIONAL (PASSENGER CARS) EMISSIONS MODEL OUTPUTS

Slover and Cactus Warehouse (Operations - Passenger Cars)

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	257.86	1000sqft	10.19	257,855.00	0
Parking Lot	342.00	Space	3.08	136,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage based on Site Plan. Number of Parking Spaces based on the provided 134 standard stalls + 104 trailer parking (208 standard stalls) = 342 standard stalls

Construction Phase - Operations (Passenger Car) Run Only.

Off-road Equipment - Operations (Passenger Car) Run Only.

Trips and VMT - Operations (Passenger Car) Run Only.

Vehicle Trips - Operations (Passenger Car) Run Only.

Fleet Mix - Operations (Passenger Car) Run Only.

Slover and Cactus Warehouse (Operations - Passenger Cars) - San Bernardino-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	PhaseEndDate	11/13/2019	10/17/2019
tblFleetMix	HHD	0.06	0.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.4600e-003	0.00
tblFleetMix	MCY	6.1170e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	1.0820e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.3370e-003	0.00
tblFleetMix	SBUS	8.1700e-004	0.00
tblFleetMix	UBUS	1.6570e-003	0.00
tblLandUse	LotAcreage	5.92	10.19
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.68	0.15
tblVehicleTrips	SU_TR	1.68	0.06

tblVehicleTrips	WD_TR	1.68	1.39

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					
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					
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	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Energy	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	237.0818	237.0818	9.1700e-003	2.3000e-003	237.9961
Mobile	0.0602	0.1184	1.3128	4.8500e-003	0.5947	3.3000e-003	0.5980	0.1579	3.0400e-003	0.1609	0.0000	439.0855	439.0855	8.9300e-003	0.0000	439.3088
Waste						0.0000	0.0000		0.0000	0.0000	49.2030	0.0000	49.2030	2.9078	0.0000	121.8983
Water						0.0000	0.0000		0.0000	0.0000	18.9179	247.3917	266.3095	1.9533	0.0480	329.4429
Total	**1.1258**	**0.1441**	**1.3420**	**5.0000e-003**	**0.5947**	**5.2800e-003**	**0.5999**	**0.1579**	**5.0200e-003**	**0.1629**	**68.1209**	**923.5738**	**991.6947**	**4.8792**	**0.0503**	**1,128.6619**

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	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Energy	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	237.0818	237.0818	9.1700e-003	2.3000e-003	237.9961
Mobile	0.0602	0.1184	1.3128	4.8500e-003	0.5947	3.3000e-003	0.5980	0.1579	3.0400e-003	0.1609	0.0000	439.0855	439.0855	8.9300e-003	0.0000	439.3088
Waste						0.0000	0.0000		0.0000	0.0000	49.2030	0.0000	49.2030	2.9078	0.0000	121.8983
Water						0.0000	0.0000		0.0000	0.0000	18.9179	247.3917	266.3095	1.9533	0.0480	329.4429
Total	**1.1258**	**0.1441**	**1.3420**	**5.0000e-003**	**0.5947**	**5.2800e-003**	**0.5999**	**0.1579**	**5.0200e-003**	**0.1629**	**68.1209**	**923.5738**	**991.6947**	**4.8792**	**0.0503**	**1,128.6619**

	ROG	NOx	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	10/17/2019	10/17/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.08

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	0	8.00	158	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

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	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 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
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**

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**

3.2 Demolition - 2019

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
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**

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	0.0602	0.1184	1.3128	4.8500e-003	0.5947	3.3000e-003	0.5980	0.1579	3.0400e-003	0.1609	0.0000	439.0855	439.0855	8.9300e-003	0.0000	439.3088
Unmitigated	0.0602	0.1184	1.3128	4.8500e-003	0.5947	3.3000e-003	0.5980	0.1579	3.0400e-003	0.1609	0.0000	439.0855	439.0855	8.9300e-003	0.0000	439.3088

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	358.93	38.68	15.47	1,595,902	1,595,902
Total	358.93	38.68	15.47	1,595,902	1,595,902

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
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.546179	0.037976	0.179086	0.122965	0.018430	0.005460	0.017497	0.061396	0.001337	0.001657	0.006117	0.000817	0.001082
Unrefrigerated Warehouse-No Rail	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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	209.1488	209.1488	8.6300e-003	1.7900e-003	209.8970
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	209.1488	209.1488	8.6300e-003	1.7900e-003	209.8970
NaturalGas Mitigated	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9331	27.9331	5.4000e-004	5.1000e-004	28.0991
NaturalGas Unmitigated	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9331	27.9331	5.4000e-004	5.1000e-004	28.0991

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					
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
Unrefrigerated Warehouse-No Rail	523446	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9331	27.9331	5.4000e-004	5.1000e-004	28.0991
Total		**2.8200e-003**	**0.0257**	**0.0216**	**1.5000e-004**		**1.9500e-003**	**1.9500e-003**		**1.9500e-003**	**1.9500e-003**	**0.0000**	**27.9331**	**27.9331**	**5.4000e-004**	**5.1000e-004**	**28.0991**

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					
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
Unrefrigerated Warehouse-No Rail	523446	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9331	27.9331	5.4000e-004	5.1000e-004	28.0991
Total		**2.8200e-003**	**0.0257**	**0.0216**	**1.5000e-004**		**1.9500e-003**	**1.9500e-003**		**1.9500e-003**	**1.9500e-003**	**0.0000**	**27.9331**	**27.9331**	**5.4000e-004**	**5.1000e-004**	**28.0991**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	47880	15.2556	6.3000e-004	1.3000e-004	15.3102
Unrefrigerated Warehouse-No Rail	608538	193.8932	8.0000e-003	1.6600e-003	194.5868
Total		**209.1488**	**8.6300e-003**	**1.7900e-003**	**209.8970**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	47880	15.2556	6.3000e-004	1.3000e-004	15.3102
Unrefrigerated Warehouse-No Rail	608538	193.8932	8.0000e-003	1.6600e-003	194.5868
Total		**209.1488**	**8.6300e-003**	**1.7900e-003**	**209.8970**

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	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Unmitigated	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159

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	0.1214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2000e-004	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Total	**1.0627**	**7.0000e-005**	**7.7000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

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	0.1214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2000e-004	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Total	**1.0627**	**7.0000e-005**	**7.7000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	266.3095	1.9533	0.0480	329.4429
Unmitigated	266.3095	1.9533	0.0480	329.4429

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	59.6301 / 0	266.3095	1.9533	0.0480	329.4429
Total		**266.3095**	**1.9533**	**0.0480**	**329.4429**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	59.6301 / 0	266.3095	1.9533	0.0480	329.4429
Total		**266.3095**	**1.9533**	**0.0480**	**329.4429**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	49.2030	2.9078	0.0000	121.8983
Unmitigated	49.2030	2.9078	0.0000	121.8983

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	242.39	49.2030	2.9078	0.0000	121.8983
Total		**49.2030**	**2.9078**	**0.0000**	**121.8983**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	242.39	49.2030	2.9078	0.0000	121.8983
Total		**49.2030**	**2.9078**	**0.0000**	**121.8983**

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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APPENDIX 3.3:

CALEEMOD ANNUAL OPERATIONAL (TRUCKS) EMISSIONS MODEL OUTPUTS

Slover and Cactus Warehouse (Operations - Trucks)

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	257.86	1000sqft	10.19	257,855.00	0
Parking Lot	342.00	Space	3.08	136,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	32
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage based on Site Plan. Number of Parking Spaces based on the provided 134 standard stalls + 104 trailer parking (208 standard stalls) = 342 standard spaces

Construction Phase - Operations (Truck) Run Only.

Off-road Equipment - Operations (Truck) Run Only.

Trips and VMT - Operations (Truck) Run Only.

Vehicle Trips - Operations (Truck) Run Only.

Fleet Mix - Fleet Mix based on information from the Trip Generation.

Slover and Cactus Warehouse (Operations - Trucks) - San Bernardino-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	PhaseEndDate	11/13/2019	10/17/2019
tblFleetMix	HHD	0.06	0.62
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.02	0.17
tblFleetMix	LHD2	5.4600e-003	0.00
tblFleetMix	MCY	6.1170e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	1.0820e-003	0.00
tblFleetMix	MHD	0.02	0.21
tblFleetMix	OBUS	1.3370e-003	0.00
tblFleetMix	SBUS	8.1700e-004	0.00
tblFleetMix	UBUS	1.6570e-003	0.00
tblLandUse	LandUseSquareFeet	257,860.00	257,855.00
tblLandUse	LotAcreage	5.92	10.19
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	16.60	40.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00

tblVehicleTrips	ST_TR	1.68	0.35
tblVehicleTrips	SU_TR	1.68	0.35
tblVehicleTrips	WD_TR	1.68	0.35

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					
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					
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	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Energy	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	237.0818	237.0818	9.1700e-003	2.3000e-003	237.9961
Mobile	0.1595	5.1784	1.1772	0.0188	0.5729	0.0318	0.6046	0.1614	0.0304	0.1918	0.0000	1,803.8489	1,803.8489	0.0631	0.0000	1,805.4261
Waste						0.0000	0.0000		0.0000	0.0000	49.2030	0.0000	49.2030	2.9078	0.0000	121.8983
Water						0.0000	0.0000		0.0000	0.0000	18.9179	247.3917	266.3095	1.9533	0.0480	329.4429
Total	**1.2251**	**5.2041**	**1.2065**	**0.0190**	**0.5729**	**0.0338**	**0.6066**	**0.1614**	**0.0324**	**0.1938**	**68.1209**	**2,288.3373**	**2,356.4582**	**4.9334**	**0.0503**	**2,494.7792**

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	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Energy	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	237.0818	237.0818	9.1700e-003	2.3000e-003	237.9961
Mobile	0.1595	5.1784	1.1772	0.0188	0.5729	0.0318	0.6046	0.1614	0.0304	0.1918	0.0000	1,803.8489	1,803.8489	0.0631	0.0000	1,805.4261
Waste						0.0000	0.0000		0.0000	0.0000	49.2030	0.0000	49.2030	2.9078	0.0000	121.8983
Water						0.0000	0.0000		0.0000	0.0000	18.9179	247.3917	266.3095	1.9533	0.0480	329.4429
Total	**1.2251**	**5.2041**	**1.2065**	**0.0190**	**0.5729**	**0.0338**	**0.6066**	**0.1614**	**0.0324**	**0.1938**	**68.1209**	**2,288.3373**	**2,356.4582**	**4.9334**	**0.0503**	**2,494.7792**

	ROG	NOx	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	10/17/2019	10/17/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.08

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	0	8.00	158	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

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	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 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
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**

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**

3.2 Demolition - 2019

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
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**

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	0.1595	5.1784	1.1772	0.0188	0.5729	0.0318	0.6046	0.1614	0.0304	0.1918	0.0000	1,803.8489	1,803.8489	0.0631	0.0000	1,805.4261
Unmitigated	0.1595	5.1784	1.1772	0.0188	0.5729	0.0318	0.6046	0.1614	0.0304	0.1918	0.0000	1,803.8489	1,803.8489	0.0631	0.0000	1,805.4261

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	89.74	89.74	89.74	1,306,546	1,306,546
Total	89.74	89.74	89.74	1,306,546	1,306,546

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
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	40.00	8.40	6.90	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.546179	0.037976	0.179086	0.122965	0.018430	0.005460	0.017497	0.061396	0.001337	0.001657	0.006117	0.000817	0.001082
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.170000	0.000000	0.210000	0.620000	0.000000	0.000000	0.000000	0.000000	0.000000

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	209.1488	209.1488	8.6300e-003	1.7900e-003	209.8970
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	209.1488	209.1488	8.6300e-003	1.7900e-003	209.8970
NaturalGas Mitigated	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9331	27.9331	5.4000e-004	5.1000e-004	28.0991
NaturalGas Unmitigated	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9331	27.9331	5.4000e-004	5.1000e-004	28.0991

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					
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
Unrefrigerated Warehouse-No Rail	523446	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9331	27.9331	5.4000e-004	5.1000e-004	28.0991
Total		**2.8200e-003**	**0.0257**	**0.0216**	**1.5000e-004**		**1.9500e-003**	**1.9500e-003**		**1.9500e-003**	**1.9500e-003**	**0.0000**	**27.9331**	**27.9331**	**5.4000e-004**	**5.1000e-004**	**28.0991**

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					
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
Unrefrigerated Warehouse-No Rail	523446	2.8200e-003	0.0257	0.0216	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9331	27.9331	5.4000e-004	5.1000e-004	28.0991
Total		**2.8200e-003**	**0.0257**	**0.0216**	**1.5000e-004**		**1.9500e-003**	**1.9500e-003**		**1.9500e-003**	**1.9500e-003**	**0.0000**	**27.9331**	**27.9331**	**5.4000e-004**	**5.1000e-004**	**28.0991**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	47880	15.2556	6.3000e-004	1.3000e-004	15.3102
Unrefrigerated Warehouse-No Rail	608538	193.8932	8.0000e-003	1.6600e-003	194.5868
Total		**209.1488**	**8.6300e-003**	**1.7900e-003**	**209.8970**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	47880	15.2556	6.3000e-004	1.3000e-004	15.3102
Unrefrigerated Warehouse-No Rail	608538	193.8932	8.0000e-003	1.6600e-003	194.5868
Total		**209.1488**	**8.6300e-003**	**1.7900e-003**	**209.8970**

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	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Unmitigated	1.0628	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159

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	0.1214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2000e-004	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Total	**1.0627**	**7.0000e-005**	**7.7000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

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	0.1214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9406					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2000e-004	7.0000e-005	7.7000e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Total	**1.0627**	**7.0000e-005**	**7.7000e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	266.3095	1.9533	0.0480	329.4429
Unmitigated	266.3095	1.9533	0.0480	329.4429

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	59.6301 / 0	266.3095	1.9533	0.0480	329.4429
Total		**266.3095**	**1.9533**	**0.0480**	**329.4429**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	59.6301 / 0	266.3095	1.9533	0.0480	329.4429
Total		**266.3095**	**1.9533**	**0.0480**	**329.4429**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	49.2030	2.9078	0.0000	121.8983
Unmitigated	49.2030	2.9078	0.0000	121.8983

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	242.39	49.2030	2.9078	0.0000	121.8983
Total		**49.2030**	**2.9078**	**0.0000**	**121.8983**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	242.39	49.2030	2.9078	0.0000	121.8983
Total		**49.2030**	**2.9078**	**0.0000**	**121.8983**

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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APPENDIX 3.4:

EMFAC 2014 MODEL OUTPUTS

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consu	Fuel_Consumpti	Total Fuel	VMT	Total VMT	Miles per G	Vehicle Cla
South Coas	2020	HHDT	Aggregatec	Aggregatec	GAS	802.1440496	104174.0551	22.12473	22124.72978	2285504.664	104174.0551	13369344.05	5.85	HHDT
South Coas	2020	HHDT	Aggregatec	Aggregatec	DSL	94066.79161	13265170	2263.38	2263379.935		13265170			
South Coas	2020	LDA	Aggregatec	Aggregatec	GAS	6241441.311	215630250.8	7791.379	7791379.047	7849819.577	215630250.8	224300103.8	28.57	LDA
South Coas	2020	LDA	Aggregatec	Aggregatec	DSL	58578.66528	2170199.073	58.44053	58440.52993		2170199.073			
South Coas	2020	LDA	Aggregatec	Aggregatec	ELEC	139480.2104	6499653.924	0	0		6499653.924			
South Coas	2020	LDT1	Aggregatec	Aggregatec	GAS	529468.9231	17839921.58	767.6565	767656.5063	768313.2779	17839921.58	17869646.83	23.26	LDT1
South Coas	2020	LDT1	Aggregatec	Aggregatec	DSL	653.8523923	17424.66748	0.656772	656.7715859		17424.66748			
South Coas	2020	LDT1	Aggregatec	Aggregatec	ELEC	394.8926991	12300.5894	0	0		12300.5894			
South Coas	2020	LDT2	Aggregatec	Aggregatec	GAS	2196840.435	81691950.79	3942.877	3942876.61	3948206.775	81691950.79	81842773.79	20.73	LDT2
South Coas	2020	LDT2	Aggregatec	Aggregatec	DSL	3707.582469	150823.0049	5.330165	5330.165365		150823.0049			
South Coas	2020	LHDT1	Aggregatec	Aggregatec	GAS	122811.721	3538562.329	324.3272	324327.2067	487711.1787	3538562.329	6867749.007	14.08	LHDT1
South Coas	2020	LHDT1	Aggregatec	Aggregatec	DSL	93218.10849	3329186.678	163.384	163383.972		3329186.678			
South Coas	2020	LHDT2	Aggregatec	Aggregatec	GAS	25139.08857	867472.8869	85.31304	85313.03659	167294.3502	867472.8869	2400097.869	14.35	LHDT2
South Coas	2020	LHDT2	Aggregatec	Aggregatec	DSL	39016.92297	1532624.982	81.98131	81981.31358		1532624.982			
South Coas	2020	MCY	Aggregatec	Aggregatec	GAS	289961.5795	1955845.416	55.31832	55318.31514	55318.31514	1955845.416	1955845.416	35.36	MCY
South Coas	2020	MDV	Aggregatec	Aggregatec	GAS	1480427.171	49182321.35	3206.973	3206973.029	3247601.48	49182321.35	50069698.89	15.42	MDV
South Coas	2020	MDV	Aggregatec	Aggregatec	DSL	22607.57726	887377.5364	40.62845	40628.45112		887377.5364			MDV
South Coas	2020	MH	Aggregatec	Aggregatec	GAS	37922.10127	307217.3044	41.47456	41474.56076	49697.59794	307217.3044	391503.7566	7.88	MH
South Coas	2020	MH	Aggregatec	Aggregatec	DSL	9968.340503	84286.45216	8.223037	8223.037177		84286.45216			
South Coas	2020	MHDT	Aggregatec	Aggregatec	GAS	19760.80313	980184.6784	139.511	139510.9867	994155.0541	980184.6784	8449666.761	8.50	MHDT
South Coas	2020	MHDT	Aggregatec	Aggregatec	DSL	134726.0007	7469482.082	854.6441	854644.0674		7469482.082			
South Coas	2020	OBUS	Aggregatec	Aggregatec	GAS	8436.227028	392438.6707	54.40171	54401.71127	114975.5108	392438.6707	833849.8071	7.25	OBUS
South Coas	2020	OBUS	Aggregatec	Aggregatec	DSL	5358.43226	441411.1364	60.5738	60573.7995		441411.1364			
South Coas	2020	SBUS	Aggregatec	Aggregatec	GAS	2258.46776	86380.44602	7.60154	7601.539992	35629.80433	86380.44602	288716.49	8.10	SBUS
South Coas	2020	SBUS	Aggregatec	Aggregatec	DSL	5309.122191	202336.044	28.02826	28028.26434		202336.044			
South Coas	2020	UBUS	Aggregatec	Aggregatec	GAS	2327.880438	267944.8976	53.57098	53570.98395	163867.7724	267944.8976	795898.8585	4.86	UBUS
South Coas	2020	UBUS	Aggregatec	Aggregatec	DSL	4588.150023	527953.961	110.2968	110296.7884		527953.961			