# Appendix G

## Greenhouse Gas Emissions Assumptions and Modeling

ESA

# Appendix G
# Greenhouse Gas Analysis
## Veterans Industrial Project - 215

1. Assumptions
    a. Assumptions - Two Buildings
    b. Assumptions - One Building
    c. Operational Assumptions
2. Two Building Scenario - Summary
    a. Unmitigated Summary
    b. Mitigated Summary
3. One Building Scenario
    a. Unmitigated Summary
    b. Mitigated Summary
4. CalEEMod Output
    a. Construction Two Buildings
        1. VIP 215 - Construction Only - BLDG 1 - Construction Unmitigated
        2 VIP 215 - Construction Only - BLDG 2 - Construction Unmitigated
    b. Construction One Building
    c. Operational
        1. VIP High Cube Warehouse - Operational
        2. VIP2015 - IE - Operational Only
5. EMFAC2017
   - See Appendix C8

# Greenhouse Gas Analysis
# Veterans Industrial Project - 215
## 1. Assumptions

## 1. Assumptions

### a. Assumptions - Two Buildings

# Veterans Industrial Project - 215
## Assumptions - Two Buildings

**CalEEMod Inputs (Non-Default information only)**

| | | |
|---|---|---|
| Project Location | | |
| County | Riverside County | |
| Air District | SCAQMD | |
| Climate Zone | 10 | |
| Operational Year | 2019 | |
| Utility Provider | Southern California Edison | |
| Source Receptor Area (SCAQMD) | 24/23 | |
| | Base | 2015[1] |
| CO intensity | 702.43634 | 531.7443094 |
| % renewable | 0% | 24.30% |

| Land Use | Building SQFT | Building KFS | (seat/ room/ space) | Acres | CalEEMod Land Use Type |
|---|---|---|---|---|---|
| **High Cube Warehouse** | | | | | |
| Bldg 1 Industrial | 10,000 | 10.00 | - | 37.93 | Refrigerated Warehouse No Rail |
| Bldg 1 Industrial | 1,014,822 | 1,014.82 | - | | Non-Refrig. Warehouse No Rail |
| Bldg 1 parking lot | - | - | - | 34.15 | parking lot |
| Bldg 2 Industrial | 10,000 | 10.00 | - | 46.45 | Refrigerated Warehouse No Rail |
| Bldg 2 Industrial | 1,185,030 | 1,185.03 | - | | Non-Refrig. Warehouse No Rail |
| Bldg 2 parking lot | - | - | - | 23.93 | parking lot |
| Roadways/utilities | | | | 3.70 | other asphalt |
| | | | | 146.16 | Total |
| **Intensive Ecommerce** | | | | | |
| bldg 1 industrial | 1,024,822 | 1,024.82 | - | 37.93 | Non-Refrig. Warehouse No Rail |
| bldg 1 parking lot | - | - | - | 34.15 | parking lot |
| Bldg 2 Industrial | 1,195,030 | 1,195.03 | - | 46.45 | Non-Refrig. Warehouse No Rail |
| bldg 2 parking lot | - | - | - | 23.93 | parking lot |
| Roadways/utilities | | | | 3.70 | other asphalt |

Number of employees:

| | |
|---|---|
| High Cube Warehouse | 1,563 |
| building 1 | 722 |
| building 2 | 841 |
| Intensive Ecommerce | 3,171 |
| building 1 | 1,464 |
| building 2 | 1,707 |

| | acres |
|---|---|
| Vanburen | 0.5 |
| Western Way | 3 |
| Utilities | 0.2 |

## Construction

### Construction Schedule

| Phases / Activity | Modeled Schedule: Start (month/date/ year) | Finish (month/date/ year) | Days | |
|---|---|---|---|---|
| Phase 1 | 1/1/2019 | | 315 | |
| Excavation/Mass Site Grading | 1/1/2019 | 2/11/2019 | 30 | Grading |
| Road Construction | 2/12/2019 | 3/25/2019 | 30 | Site Preparation |
| Concrete Pour for Building 1 | 3/26/2019 | 5/6/2019 | 30 | Building Construction |
| Building Construction | 5/18/2019 | 12/6/2019 | 145 | Building Construction |
| Architectural Coatings | 11/1/2019 | 12/12/2019 | 30 | Architectural Coating |
| Paving/Landscape/Site Finishes | 3/11/2019 | | 50 | Paving |
| Phase 2 | 1/3/2022 | | 255 | |
| Concrete Pour for Building 2 | 3/26/2019 | 5/6/2019 | 30 | |
| Building Construction | 5/18/2019 | 12/6/2019 | 145 | |
| Architectual Coatings | 11/1/2019 | 12/12/2019 | 30 | |
| Paving/Landscape/Site Finishes | 3/11/2019 | | 50 | |

Notes:

1. Construction of Phase 1 and Phase 2 will occur concurrently within a one year period.
2. Modeling for each building is contained within the initial year for a worst case emissions scenario, regardless of when during the year construction may actually start.
3. Construction Activities are anticipated to occur 5 days per week (Monday thru Friday Only)
4. Assumes the same size buildings will be developed regardless of operational use.
5. Architectural Coating phase assumes 100 g/L of VOCs associated with the coatings for the building as well as parking lot painting.
6. All construction activities are modeled based on total size of building and acres of site. Therefore two buildings the size of the Intensive Ecommerce buildings were modeled.
7. While the High Cube Warehouse is anticipated to have 10,000 sqft of refrigerated area per building, the fact that it is refrigerated does not add to any of the construction emission calculations.
8. All construction information taken from Source 2 unless otherwise stated.

**Construction Project Design Features**

1. Utilize Tier 3 construction equipment - **incorporated throught mitigation in CalEEMod**
2. Require construction equipment to turn off when not in use. - Not incorporated into the modeling.
3. Use locally produced and/or manufactured building materials for at least 10% of the construction materials used for the project. - Not Incorporated into the modeling.
4. Use "green" building materials, such as those materials that are resource efficient and recycled and manufactured in environmentally friendly way, for at least 10% of the project. - Not Incorporated into the modeling.
5. Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard). - Not Incorporated into the modeling.

**Construction Phases and Equipment Summary**

The following provides the equipment estimated by CalEEMod to be used during each phase of site construction. The equipment is based on the size of the site and studies completed by SCAQMD. The following abbreviations are used in the following sections.

# = number of each type of equipment that would operate on a max day.

Hrs/day = estimated hours per day each piece of equipment would operate (This is not representative of the total length of the construction day)

HP = horse power of the equipment.

LF = Load factor for the equipment

***Phase 1 Construction***

**Excavation/Mass Site Grading** (Whole Site)

*Phase Type* Grading

*Soil Import/Export*

0 Cubic/yards of soil import

128,487 cubic/yards soil export (Onsite soil and pipeline along western export)

8566 trucks

| *Equipment Type* | # | Hrs/day | HP | LF | |
|---|---|---|---|---|---|
| *Graders* | 1 | 8 | Default | Default | |
| *Rubber Tired Dozers* | 1 | 8 | Default | Default | |
| *Scrapers* | 10 | 8 | Default | Default | |
| *Water Truck* | 1 | 4 | Default | Default | Off Highway Truck |

**Road Construction**

*Phase Type* Site Preparation

*Soil Import/Export*

0 Cubic/yards of soil import

0 cubic/yards soil export

0 trucks

| *Equipment Type* | **#** | **Hrs/day** | **HP** | **LF** | |
|---|---|---|---|---|---|
| Excavator | 2 | 8 | Default | Default | |
| Rubber Tired Dozer | 3 | 8 | Default | Default | |
| Tractors/Loaders/Backhoes | 3 | 8 | Default | Default | |
| Trenchers | 2 | 8 | Default | Default | |
| Water Truck | 1 | 4 | Default | Default | Off Highway Truck |

**Concrete Pour for Building 1**

*Phase Type* Building Construction

| *Equipment Type* | # | Hrs/day | HP | LF | |
|---|---|---|---|---|---|
| Forklift | 1 | 18 | Default | Default | |
| Generator Set | 8 | 20 | Default | Default | |
| Water Truck | 1 | 8 | Default | Default | Off Highway Truck |
| Boom Pump | 1 | 24 | Default | Default | Off Highway Truck |
| Rollers | 1 | 20 | Default | Default | |
| Tractors/Loaders/Backhoes | 1 | 20 | Default | Default | |
| Laser Screed[a] | 2 | 24 | 65 | 0.31 | Other Const Equip |
| Ride on Finisher[a] | 8 | 24 | 31 | 0.45 | Other Const Equip |
| Light Tower | Assumes they are powered from the generators | | | | |
| Soft Cut Machine[a] | 5 | 24 | 27 | 0.43 | Other Const Equip |

This is a continuous pour scenario and assumes that all days of the concrete pour would occur 24 hours per day.

**Building Construction** - All But crain operation which is only 14 days of the total

*Phase Type* Building Construction

| *Equipment Type* | # | Hrs/day | HP | LF |
|---|---|---|---|---|
| Crane | 1 | 8 | Default | Default |
| Forklift | 3 | 8 | Default | Default |
| Generator Set | 3 | 8 | Default | Default |
| Tractors/Loaders/Backhoes | 3 | 8 | Default | Default |
| welder | 3 | 8 | Default | Default |

*Note the crane will only operate for 14 days

**Architectural Coatings**

*Phase Type* Architectural Coating

| *Equipment Type* | # | Hrs/day | HP | LF |
|---|---|---|---|---|
| Air Compressors | 3 | 8 | Default | Default |

| Building Area | Default | Original Modeled | | Revised | |
|---|---|---|---|---|---|
| | 1,537,230 | 768,615 | | Interior | Exterior |
| | | | | 3,404 | 194,496 |

*Note: Inside area for warehouse coating is the same as for office buildings which his not accurate. Indoor Architectural coating area for warehouses is significantly less than that of an office building. Therefore project specific values are used.

**Paving/Landscape/Site Finishes**

*Phase Type* Paving

34.15 acres to be paved

| *Equipment Type* | # | Hrs/day | HP | LF | |
|---|---|---|---|---|---|
| Forklift | 2 | 8 | Default | Default | |
| Water Truck | 1 | 4 | Default | Default | off highway truck |
| Pavers | 2 | 8 | Default | Default | |
| Paving Equipment | 2 | 8 | Default | Default | |
| Roller | 1 | 8 | Default | Default | |
| Scrapers | 1 | 8 | Default | Default | |
| Tractors/loaders/backhoes | 3 | 8 | Default | Default | |
| Blade | 1 | 8 | Default | Default | Skid Steer |

*Note: Water truck modeled with Overlapping phases

***Phase 2 Construction***

**Concrete Pour for Building 2**

*Phase Type* Building Construction

| *Equipment Type* | # | Hrs/day | HP | LF | |
|---|---|---|---|---|---|
| Forklift | 1 | 18 | Default | Default | |
| Generator Set | 8 | 20 | Default | Default | |
| Water Truck | 1 | 12 | Default | Default | Off Highway Truck |
| Boom Pump | 1 | 24 | Default | Default | Off Highway Truck |
| Rollers | 1 | 20 | Default | Default | |
| Tractors/Loaders/Backhoes | 1 | 20 | Default | Default | |
| Laser Screed[a] | 2 | 24 | 65 | 0.31 | Other Const Equip |
| Ride on Finisher[a] | 8 | 24 | 31 | 0.45 | Other Const Equip |
| Light Tower | Assumes they are powered from the generators | | | | |
| Soft Cut Machine[a] | 5 | 24 | 27 | 0.43 | Other Const Equip |

This is a continuous pour scenario and assumes that all days of the concrete pour would occur 24 hours per day.

**Building Construction** - All But crain operation which is only 14 days of the total

*Phase Type* Building Construction

| *Equipment Type* | # | Hrs/day | HP | LF |
|---|---|---|---|---|
| Crane | 1 | 8 | Default | Default |
| Forklift | 3 | 8 | Default | Default |
| Generator Set | 3 | 8 | Default | Default |
| Tractors/Loaders/Backhoes | 3 | 8 | Default | Default |
| welder | 3 | 8 | Default | Default |

*Note crane only operates 14 days

**Architectual Coatings**

*Phase Type* Architectural Coating

| *Equipment Type* | # | Hrs/day | HP | LF |
|---|---|---|---|---|
| Air Compressors | 3 | 8 | Default | Default |

| Building Area | Default | Modeled | | Revised | |
|---|---|---|---|---|---|
| | 1,792,545 | 896,273 | | Interior | Exterior |
| | | | | 3,676 | 210,048 |

*Note: Inside area for warehouse coating is the same as for office buildings which his not accurate. Indoor Architectural coating area for warehouses is significantly less than that of an office building. Therefore project specific values are used.

**Paving/Landscape/Site Finishes**

*Phase Type* Paving

23.93 acres to be paved

| *Equipment Type* | # | Hrs/day | HP | LF | |
|---|---|---|---|---|---|
| Forklift | 2 | 8 | Default | Default | |
| Water Truck | 1 | 4 | Default | Default | off highway truck |
| Pavers | 2 | 8 | Default | Default | |
| Paving Equipment | 2 | 8 | Default | Default | |
| Roller | 1 | 8 | Default | Default | |
| Scrapers | 1 | 8 | Default | Default | |
| Tractors/loaders/backhoes | 3 | 8 | Default | Default | |
| Blade | 1 | 8 | Default | Default | Skid Steer |

**Construction Trips and Vehicle Miles Traveled[2]**

| | Worker | | Vendor | | Haul | |
|---|---|---|---|---|---|---|
| **Phase Name** | **# Trips** | **VMT/Trip** | **# Trips** | **VMT/Trip** | **# Trucks** | **VMT/Trip** |
| ***Phase 1 Construction*** | | | | | | |
| Excavation/Mass Site Grading | 60 | 20 | 20 | 20 | 8566 | 20 |
| Road Construction | 34 | 20 | 10 | 20 | 0 | 20 |
| Concrete Pour for Building 1 | 50 | 20 | 4 | 20 | 3,744 | 20 |
| Building Construction | 60 | 20 | 20 | 20 | 0 | 0 |
| Architectural Coatings | 8 | 20 | 2 | 20 | 0 | 0 |
| Paving/Landscape/Site Finishes | 30 | 20 | 10 | 20 | 2,011 | 20 |
| ***Phase 2 Construction*** | | | | | | |
| Concrete Pour for Building 2 | 50 | 20 | 4 | 20 | 4,365 | 20 |
| Building Construction | 60 | 20 | 20 | 20 | 0 | 0 |
| Architectual Coatings | 8 | 20 | 2 | 20 | 0 | 0 |
| Paving/Landscape/Site Finishes | 30 | 20 | 10 | 20 | 3,293 | 20 |

Note:

1 All trips indicated in this table are one-way trips

2 Worker and Vendor trips are number of one-way trips per day. Haul trips are total number of round trips associated with the phase.

3 Concrete trucks assume approximately 10 cubic yards per foot, with approximately

| | |
|---|---|
| 10 | cy per truck |
| 274 | sqft per 10 cubic yards |
| 1,024,822 | bldg sqft = Bldg 1 |
| 3,744 | concrete trucks for Bldg 1 |
| 1,195,030 | bldg sqft - Bldg 2 |
| 4,365 | bldg sqft |

# Operational Assumptions

The project as proposed could have one of two operations, either a High Cube Warehouse or an Intensive Ecommerce facility. The type of operations would not change the size of the buildings but would change the number of employees and therefore would impact the utility consumption and VMT. Therefore, each of these scenarios are modeled separately. It is assumed that the High Cube Warehouse option would have 10,000 square feet of refrigerated space per building. Additional Assumptions for each of the scenarios is as follows.

**Operational Related Project Design Features**

*Note that these project design features are not individually incorporated into the modeling unless otherwise indicated. As most do not have enough information to determine an exact reduction in emissions, it is assumed that the combined incorporation of these measures would, at a minimum, meet the existing requirements of the Title 24 standard that is in effect at the time the building is being constructed. Under the current construction schedule it would be the 2016 Title 24 efficiencies for the first building and the 2019 Title 24 efficiencies for the second building.*

1. Buildings will be designed to provide CalGreen Standards with Leadership in Energy and Environmental Design (LEED) features for potential certification. This includes design considerations related to the building envelope, HVAC, lighting, and power systems. Additionally the architectural expression such as roofs and windows in the buildings will relate to conserving energy.
2. Install efficient lighting and lighting control systems. Solar or light-emitting diodes (LEDs) will be installed for outdoor lighting. The site and buildings will be designed to take advantage of daylight, such that the use of daylight is an integral part of the lighting systems in buildings. Lighting will incorporate motion sensors that turn them off when not in use.
3. Use trees and landscaping on west and south exterior building walls to reduce energy use.
4. For future office, install energy efficient heating and cooling systems, appliances and equipment, and control systems that are Energy Star rated.
5. For future office, refrigerants and HVAC equipment will be selected to minimize or eliminate the emission of compounds that contribute to ozone depletion and global warming. Ventilation and HVAC systems will be designed to meet or exceed the minimum outdoor air ventilation rates described in the American Society of Heating Refrigeration, and Air Cooling engineers (ASHREA) standards and/or per California Title 24 requirements.
6. For future office, implement design features to increase the efficiency of the building envelope (i.e., the barrier between conditioned and unconditioned spaces). This includes installation of insulation to minimize heat transfer and thermal bridging and to limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption.
7. Incorporate Energy Star rated windows, space heating and cooling equipment, light fixtures,, appliances, or other applicable electrical equipment.
8. Install solar ready infrastructure so that solar panels could be included over any future parking locations internal to the project.
9. Design buildings to have "solar ready" roofs that will structurally accommodate later installation of rooftop solar panels. Building operators providing rooftop solar panels will submit plans for panels prior to occupancy.

10. Surface parking lots will be well landscaped to reduce heat island effect. Parking lot landscaping will be planted with 15- gallon trees, one per every four sparking stalls. The trees may be clustered, but a minimum of one cluster will be provided for each 100 feet of parking row. Trees will be selected and placed to provide canopy and shade

11. Install water-efficient irrigation systems and devices, such as soil moisture based irrigation controls and sensors for landscaping according to the California Department of Water Resources model Efficient Landscape Ordinance.

12. Install landscape irrigation infrastructure along the property frontage to deliver and use reclaimed water, should reclaimed water supplies become available through the City.

13. Design buildings to be water-efficient. Install water-efficient fixtures and appliances (e.g., EPA WaterSense labeled products).

14. Restrict water methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.

15. Restrict the use of water for cleaning outdoor surfaces and vehicles.

16. Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. The project will retain storm water runoff on-site and construct basins to hold and filter water.

17. Implement a comprehensive water conservation strategy through methods that are appropriate for the project and location.

18. Provide education about water conservation and available programs and incentives to the building operators to distribute to employees.

19. Provide interior and exterior storage areas for recyclables and green waste and keep adequate recycling containers located in public areas.

20. The property operator will provide readily available information provided by the City for employee education about reducing waste and available recycling services.

21. Limit idling time for commercial vehicles to no more than five minutes, including delivery and construction vehicles, per ARB requirements.

22. Provide electric vehicle charging facilities to encourage the use of low or zero-emission vehicles.

23. Provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience.

24. Provide facilities that encourage bicycle commuting (e.g., locked bicycle storage or covered or indoor bicycle parking).

25. Electrical outlets will be provided in loading dock areas to provide power for trucks when refrigeration is needed. This allows trucks with refrigerated cargo to keep their cargo cool without using their engines, minimizing idling time to reduce air emissions and use of fuel onsite.

## Operational Assumptions - High Cube Warehouse

| ***Mobile source emissions*** | | | | BLDG1 | BLDG2 | VMT |
|---|---|---|---|---|---|---|
| Total Vehicles[3] | 3,108 | | | 1,434 | 1,674 | 84,844 |
| Autos[3] | 1,687 | | | 778 | 909 | 28,004 |
| Trucks[3] | 1,421 | | | 656 | 765 | 56,840 |
| | 241 | 2-axel | | 111 | 130 | |
| | 327 | 3-axel | | 150 | 177 | |
| | 853 | 4-axel | | 393 | 460 | |
| Annual VMT | | | | 14,296,685 | 16,671,375 | 30,968,060 |
| Daily VMT[3] | 84,844 | | | 39,169 | 45,675 | |
| | 54.28% | autos at 16.6 miles/trip | | 0 | 0 | |
| | 45.72% | trucks at 40 miles/trip | | 0 | 0 | |
| Trip Rate[3] | 1.4040 | trips per ksf | Total | 26,240 | 30,600 | Truck Dail |

| Fleet Mix | CalEEMod | | Project | | | |
|---|---|---|---|---|---|---|
| Designation | Default % Total | % of Project Category | Designation | % Project | Revised CalEEMod % |
| | | Non-Truck | | | |
| LDA | 0.538064 | 0.7028628 | Non-Truck | 0.5427928 | 0.3815089 |
| LDT1 | 0.038449 | 0.0502252 | Non-Truck | | 0.0272619 |
| LDT2 | 0.184390 | 0.2408652 | Non-Truck | | 0.1307399 |
| MCY | 0.004629 | 0.0060468 | Non-Truck | | 0.0032821 |
| | | Truck | | | |
| MDV | 0.122109 | 1 | 2-Axle | 0.0775418 | 0.0775418 |
| LHDT1 | 0.017402 | 0.7652258 | 3-Axle | 0.1052124 | 0.0805112 |
| LHDT2 | 0.005339 | 0.2347742 | 3-Axle | | 0.0247011 |
| MHDT | 0.017250 | 0.2030343 | 4-Axel | 0.274453 | 0.0557234 |
| HHDT | 0.067711 | 0.7969657 | 4-Axel | | 0.2187296 |

***Area source emissions*** Default Emissions Used

***Energy Use*** Default Emissions Used for Electricity. No Natural Gas Consumption

***Water and Wastewater***

| | |
|---|---|
| 109 | Acre feet per year[5] |
| 35,517,806.23 | gallons per year - 100% indoor use assumed |
| 243,004.67 | gallons per acre |
| 17,515,825.54 | Building 1 |
| 17,102,863.39 | Building 2 |
| 34,618,688.93 | Total both buildings |

Note: for convenience maximum acre feet per year consumption is divided by acres to associate the usage with each building. Water is modeled as associated with the non-refrigerated warehouse portion as it is larger.

*109 acre feet per year is the maximum consumption for this site regardless of use.*

***Solid Waste***

| | | |
|---|---|---|
| 963.33 | tons per year | Bldg1 |
| 1,097.95 | tons per year | Bldg2 |
| 2,061.28 | total Solid Waste | |
| 1,563 | number of employees | |
| 1.32 | tons per employee | |

## Operational Assumptions - Intensive Ecommerce

| ***Mobile source emissions*** | | | | BLDG1 | BLDG2 | VMT |
|---|---|---|---|---|---|---|
| Total Vehicles[3] | 14285 | | | 6,594 | 7,691 | 273,237 |
| Autos[3] | 12742 | | | 5,882 | 6,860 | 211,517 |
| Trucks[3] | 1543 | | | 712 | 831 | 61,720 |
| | 494 | 2-axel | | 228 | 266 | |
| | 339 | 3-axel | | 156 | 183 | |
| | 710 | 4-axel | | 327 | 383 | |
| Annual VMT | | | | 46,042,195 | 53,689,310 | 99,731,505 |
| Daily VMT[3] | 273,237 | | | 126,143 | 147,094 | |
| | 89% | autos at 16.6 miles/trip | | 112,518 | | |
| | 11% | trucks at 40 miles/trip | | | | |
| Trip Rate[3] | 6.4372 | trips per ksf | Bldg 1 | | | |
| | 6.4372 | trips per ksf | Bldg 2 | | | |

| Fleet Mix | CalEEMod | | Project | | | |
|---|---|---|---|---|---|---|
| Designation | Default % Total | % of Project Category | Designation | % Project | Revised CalEEMod % |
| | | Non-Truck | | | |
| LDA | 0.538064 | 0.7028628 | Non-Truck | 0.8919846 | 0.6269428 |
| LDT1 | 0.038449 | 0.0502252 | Non-Truck | | 0.0448001 |
| LDT2 | 0.184390 | 0.2408652 | Non-Truck | | 0.214848 |
| MCY | 0.004629 | 0.0060468 | Non-Truck | | 0.0053936 |
| | | Truck | | | |
| MDV | 0.122109 | 1 | 2-Axle | 0.0345817 | 0.0345817 |
| LHDT1 | 0.017402 | 0.7652258 | 3-Axle | 0.0237312 | 0.0181597 |
| LHDT2 | 0.005339 | 0.2347742 | 3-Axle | | 0.0055715 |
| MHDT | 0.017250 | 0.2030343 | 4-Axel | 0.0497025 | 0.0100913 |
| HHDT | 0.067711 | 0.7969657 | 4-Axel | | 0.0396112 |

***Area source emissions*** Default Emissions Used

***Energy Use*** Energy Use adjusted based on # of Employees and Default for General Warehouse Use for Electricity. No Natural Gas Consumption.

| | | Electric | | |
|---|---|---|---|---|
| Energy | | Title 24 | Non T-24 | Lighting |
| Default | | 0.37 | 0.82 | 1.17 |
| | % total | 15.68% | 34.75% | 49.58% |
| | % non lighting | 31.09% | 68.91% | |
| Revised IE | | 0.71 | 1.58 | 1.30 |

Default Energy

Electricity

5,779,231.00 Default From CalEEMod
2,865,127.23 kWh from Lighting
2,199,852.00 sqft
1.30 kWh per sqft
2,914,103.77 kWh Not Lighting
2,075,195 kWh from employees
1,563 # Employees
1,327.70 kWh per employee
838,909 kWh by building sqft only
2,199,852 sqft
0.38 kWh per sqft

Revised Energy

2,199,852 sqft
3,171 #employees
2,865,127 kWh from Lighting
4,210,137 kWh from Employees
838,909 kWh from Building sqft

| Breakdown[4] | | Building Size | Employee | Non-Lighting % |
|---|---|---|---|---|
| | | Electricity | | |
| Refrigeration | 6% | | X | 9.1% |
| Computer | 6% | | X | 9.1% |
| Cooling | 14% | X | | 21.2% |
| Lighting | 34% | X | | |
| Ventilation | 5% | X | | 7.6% |
| Miscellaneus | 35% | | X | 53.0% |
| | | NG | | |
| Heating | 87% | X | | |
| Water Heating | 8% | | X | |
| Miscellaneus | 5% | | X | |

*Note: Parking lot energy uses default for CalEEMod for both electricity and natural gas.

***Water and Wastewater***

| | |
|---|---|
| 109 | Acre feet per year[5] |
| 35,517,806.23 | gallons per year - 100% indoor use assumed |
| 243,004.67 | gallons per acre |
| 17,515,825.54 | Building 1 |
| 17,102,863.39 | Building 2 |
| 34,618,688.93 | Total |

*109 acre feet per year is the maximum consumption for this site regardless of use.*

***Solid Waste***

| | |
|---|---|
| 3,171 | number of employees |
| 1.32 | tons per employee |
| 4,181.91 | tons/year Bldg1 |

## Sources

***Sources***


[1] CUPC 2017.

[2] *Construction Assumptions - Applicant provided information*

[3] *VRPA Technologies, Inc. 2018. Veterans Industrial Park (VIP) 215 Development Traffic Impact Study Report, August.*

[4] *https://ouc.bizenergyadvisor.com/warehouses*

[5] *Water Supply Assessment - will update the reference once we get a response.*

# 1. Assumptions
## b. Assumptions - One Building

# Veterans Industrial Project - 215
## Assumptions - One Building

**CalEEMod Inputs (Non-Default information only)**

| | | |
|---|---|---|
| Project Location | | |
| County | Riverside County | |
| Air District | SCAQMD | |
| Climate Zone | 10 | |
| Construction Start Year | 2019 | |
| Operational Year | 2019 | |
| Utility Provider | Southern California Edison | |
| Source Receptor Area (SCAQMD) | 24 | |
| | Base | 2015[1] |
| CO intensity | 702.43634 | 531.7443094 |
| % renewable | 0% | 24.30% |

| Land Use | Building SQFT | Building KFS | (seat/ room/ space) | Acres | CalEEMod Land Use Type |
|---|---|---|---|---|---|
| | | **High Cube Warehouse** | | | |
| Bldg 1 Industrial | 20,000 | 20.00 | - | 84.38 | Refrigerated Warehouse No Rail |
| Bldg 1 Industrial | 2,199,852 | 2,199.85 | - | | Non-Refrig. Warehouse No Rail |
| Bldg 1 parking lot | - | - | - | 58.08 | parking lot |
| Roadways/utilities | - | - | - | 3.70 | other asphalt |
| | | | | 146.16 | Total |
| | | **Intensive Ecommerce** | | | |
| bldg 1 industrial | 2,219,852 | 2,219.85 | - | 84.38 | Non-Refrig. Warehouse No Rail |
| bldg 1 parking lot | - | - | - | 58.08 | parking lot |
| Roadways/utilities | | | | 3.70 | other asphalt |

Number of employees:

| | |
|---|---|
| High Cube Warehouse | 1,563 |
| Intensive Ecommerce | 3,171 |

| | acres |
|---|---|
| Vanburen | 0.5 |
| Western Way | 3 |
| Utilities | 0.2 |

Note: Total building is anticiapted to be 2,026,101 squre feet however ot maintain consistency with the original two building scenario, the modeled square footage is the total of the two buidings.

## Construction

### Construction Schedule

| Phases / Activity | Modeled Schedule: Start (month/date/ year) | Modeled Schedule: Finish (month/date/ year) | Days | |
|---|---|---|---|---|
| Phase 1 | 1/1/2019 | 5/1/2020 | 349 | |
| Road Construction/Utilities | 1/1/2019 | | 30 | Site Preparation |
| Excavation/Mass Grading | 1/1/2019 | | 54 | Grading |
| Concrete Pour for Building | 1/1/2019 | | 45 | Building Construction |
| Building Construction | 1/1/2019 | | 262 | Building Construction |
| Architectural Coatings | 1/1/2019 | | 44 | Architectural Coating |
| Paving/Landscape/Site Finishes | 1/1/2019 | | 75 | Paving |

Notes:

1. Construction Activities are anticipated to occur 5 days per week (Monday thru Friday Only)
2. Assumes the same size buildings will be developed regardless of operational use.
3. Architectural Coating phase assumes 100 g/L of VOCs associated with the coatings for the building as well as parking lot painting.
4. While the High Cube Warehouse is anticipated to have 20,000 sqft of refrigerated area per building, the fact that it is refrigerated does not add to any of the construction emission calculations.
5. See Full Schedule for actual schedule. Modeled start dates adjusted for each phase for most conservative equipment emissions.

**Construction Project Design Features**

1. Utilize Tier 3 construction equipment - incorporated throught the mitigation tab in CalEEMod
2. Require construction equipment to turn off when not in use. - Not incorporated into the modeling.
3. Use locally produced and/or manufactured building materials for at least 10% of the construction materials used for the project. - Not Incorporated into the modeling.
4. Use "green" building materials, such as those materials that are resource efficient and recycled and manufactured in environmentally friendly way, for at least 10% of the project. - Not Incorporated into the modeling.

5. Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard). - Not Incorporated into the modeling.

**Construction Phases and Equipment Summary**

The following provides the equipment estimated by CalEEMod to be used during each phase of site construction. The equipment is based on the size of the site and studies completed by SCAQMD. The following abbreviations are used in the following sections.

# = number of each type of equipment that would operate on a max day.

Hrs/day = estimated hours per day each piece of equipment would operate (This is not representative of the total length of the construction day)

HP = horse power of the equipment.

LF = Load factor for the equipment

***Phase 1 Construction***

**Road Construction/Utilities** (Whole Site)

*Phase Type* Grading

*Soil Import/Export*

0 Cubic/yards of soil import
0 cubic/yards soil export (Onsite soil and pipeline along western export)
0 trucks

| *Equipment Type* | # | Hrs/day | HP | LF | |
|---|---|---|---|---|---|
| Excavator | 2 | 8 | Default | Default | |
| Rubber Tired Dozer | 3 | 8 | Default | Default | |
| Tractors/Loaders/Backhoes | 3 | 8 | Default | Default | |
| Trenchers | 2 | 8 | Default | Default | |
| Water Truck | 1 | 4 | Default | Default | Off Highway Truck |

**Excavation/Mass Grading**

*Phase Type* Site Preparation

*Soil Import/Export*

0 Cubic/yards of soil import
220,000 cubic/yards soil export
14,667 trucks

| *Equipment Type* | **#** | **Hrs/day** | **HP** | **LF** | |
|---|---|---|---|---|---|
| *Graders* | 1 | 8 | Default | Default | |
| *Rubber Tired Dozers* | 1 | 8 | Default | Default | |
| *Scrapers* | 10 | 8 | Default | Default | |
| Water Truck | 1 | 4 | Default | Default | Off Highway Truck |

**Concrete Pour for Building**

*Phase Type* Building Construction

| *Equipment Type* | # | Hrs/day | HP | LF | |
|---|---|---|---|---|---|
| Forklift | 1 | 18 | Default | Default | |
| Generator Set | 8 | 20 | Default | Default | |
| Water Truck | 1 | 8 | Default | Default | Off Highway Truck |
| Boom Pump | 1 | 24 | Default | Default | Off Highway Truck |
| Rollers | 1 | 20 | Default | Default | |
| Tractors/Loaders/Backhoes | 1 | 20 | Default | Default | |
| Laser Screed[a] | 2 | 24 | 65 | 0.31 | Other Const Equip |
| Ride on Finisher[a] | 8 | 24 | 31 | 0.45 | Other Const Equip |
| Light Tower | Assumes they are powered from the generators | | | | |
| Soft Cut Machine[a] | 5 | 24 | 27 | 0.43 | Other Const Equip |

This is a continuous pour scenario and assumes that all days of the concrete pour would occur 24 hours per day.

**Building Construction** - All But crain operation which is only 14 days of the total

*Phase Type* Building Construction

| *Equipment Type* | # | Hrs/day | HP | LF |
|---|---|---|---|---|
| Crane | 1 | 8 | Default | Default |
| Forklift | 3 | 8 | Default | Default |
| Generator Set | 3 | 8 | Default | Default |
| Tractors/Loaders/Backhoes | 3 | 8 | Default | Default |
| welder | 3 | 8 | Default | Default |

*Note the crane will only operate for 24 days

**Architectural Coatings**

*Phase Type* Architectural Coating

| *Equipment Type* | # | Hrs/day | HP | LF |
|---|---|---|---|---|
| Air Compressors | 3 | 8 | Default | Default |

| Revised | |
|---|---|
| Interior | Exterior |
| 7,080 | 404,544 |

*Note: Inside area for warehouse coating is the same as for office buildings which his not accurate. Indoor Architectural coating area for warehouses is significantly less than that of an office building. Therefore project specific

values are used.

**Paving/Landscape/Site Finishes**

*Phase Type* Paving

58.08 acres to be paved

| *Equipment Type* | # | Hrs/day | HP | LF | |
|---|---|---|---|---|---|
| Forklift | 2 | 8 | Default | Default | |
| Water Truck | 1 | 4 | Default | Default | off highway truck |
| Pavers | 2 | 8 | Default | Default | |
| Paving Equipment | 2 | 8 | Default | Default | |
| Roller | 1 | 8 | Default | Default | |
| Scrapers | 1 | 8 | Default | Default | |
| Tractors/loaders/backhoes | 3 | 8 | Default | Default | |
| Blade | 1 | 8 | Default | Default | Skid Steer |

**Construction Trips and Vehicle Miles Traveled[2]**

| | Worker | | Vendor | | Haul | |
|---|---|---|---|---|---|---|
| **Phase Name** | **# Trips** | **VMT/Trip** | **# Trips** | **VMT/Trip** | **# Trucks** | **VMT/Trip** |
| ***Phase 1 Construction*** | | | | | | |
| Road Construction/Utilities | 30 | 20 | 10 | 20 | 0 | 20 |
| Excavation/Mass Grading | 60 | 20 | 20 | 20 | 14,667 | 20 |
| Concrete Pour for Building | 75 | 20 | 4 | 20 | 7,672 | 20 |
| Building Construction | 120 | 20 | 20 | 20 | | 0 |
| Architectural Coatings | 20 | 20 | 2 | 20 | | 0 |
| Paving/Landscape/Site Finishes | 30 | 20 | 10 | 20 | 3,419 | 20 |

Note:

1 All trips indicated in this table are one-way trips

2 Worker and Vendor trips are number of one-way trips per day. Haul trips are total number of round trips associated with the phase.

## 1. Assumptions
## c. Operational Assumptions

# Operational Assumptions

The project as proposed could have one of two operations, either a High Cube Warehouse or an Intensive Ecommerce facility. The type of operations would not change the size of the buildings but would change the number of employees and therefore would impact the utility consumption and VMT. Therefore, each of these scenarios are modeled separately. It is assumed that the High Cube Warehouse option would have 10,000 square feet of refrigerated space per building. Additional Assumptions for each of the scenarios is as follows.

**Operational Related Project Design Features**

*Note that these project design features are not individually incorporated into the modeling unless otherwise indicated. As most do not have enough information to determine an exact reduction in emissions, it is assumed that the combined incorporation of these measures would, at a minimum, meet the existing requirements of the Title 24 standard that is in effect at the time the building is being constructed. Under the current construction schedule it would be the 2016 Title 24 efficiencies for the first building and the 2019 Title 24 efficiencies for the second building.*

1. Buildings will be designed to provide CalGreen Standards with Leadership in Energy and Environmental Design (LEED) features for potential certification. This includes design considerations related to the building envelope, HVAC, lighting, and power systems. Additionally the architectural expression such as roofs and windows in the buildings will relate to conserving energy.
2. Install efficient lighting and lighting control systems. Solar or light-emitting diodes (LEDs) will be installed for outdoor lighting. The site and buildings will be designed to take advantage of daylight, such that the use of daylight is an integral part of the lighting systems in buildings. Lighting will incorporate motion sensors that turn them off when not in use.
3. Use trees and landscaping on west and south exterior building walls to reduce energy use.
4. For future office, install energy efficient heating and cooling systems, appliances and equipment, and control systems that are Energy Star rated.
5. For future office, refrigerants and HVAC equipment will be selected to minimize or eliminate the emission of compounds that contribute to ozone depletion and global warming. Ventilation and HVAC systems will be designed to meet or exceed the minimum outdoor air ventilation rates described in the American Society of Heating Refrigeration, and Air Cooling engineers (ASHREA) standards and/or per California Title 24 requirements.
6. For future office, implement design features to increase the efficiency of the building envelope (i.e., the barrier between conditioned and unconditioned spaces). This includes installation of insulation to minimize heat transfer and thermal bridging and to limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption.
7. Incorporate Energy Star rated windows, space heating and cooling equipment, light fixtures,, appliances, or other applicable electrical equipment.
8. Install solar ready infrastructure so that solar panels could be included over any future parking locations internal to the project.
9. Design buildings to have "solar ready" roofs that will structurally accommodate later installation of rooftop solar panels. Building operators providing rooftop solar panels will submit plans for panels prior to occupancy.

10. Surface parking lots will be well landscaped to reduce heat island effect. Parking lot landscaping will be planted with 15- gallon trees, one per every four sparking stalls. The trees may be clustered, but a minimum of one cluster will be provided for each 100 feet of parking row. Trees will be selected and placed to provide canopy and shade

11. Install water-efficient irrigation systems and devices, such as soil moisture based irrigation controls and sensors for landscaping according to the California Department of Water Resources model Efficient Landscape Ordinance.

12. Install landscape irrigation infrastructure along the property frontage to deliver and use reclaimed water, should reclaimed water supplies become available through the City.

13. Design buildings to be water-efficient. Install water-efficient fixtures and appliances (e.g., EPA WaterSense labeled products).

14. Restrict water methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.

15. Restrict the use of water for cleaning outdoor surfaces and vehicles.

16. Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. The project will retain storm water runoff on-site and construct basins to hold and filter water.

17. Implement a comprehensive water conservation strategy through methods that are appropriate for the project and location.

18. Provide education about water conservation and available programs and incentives to the building operators to distribute to employees.

19. Provide interior and exterior storage areas for recyclables and green waste and keep adequate recycling containers located in public areas.

20. The property operator will provide readily available information provided by the City for employee education about reducing waste and available recycling services.

21. Limit idling time for commercial vehicles to no more than five minutes, including delivery and construction vehicles, per ARB requirements.

22. Provide electric vehicle charging facilities to encourage the use of low or zero-emission vehicles.

23. Provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience.

24. Provide facilities that encourage bicycle commuting (e.g., locked bicycle storage or covered or indoor bicycle parking).

25. Electrical outlets will be provided in loading dock areas to provide power for trucks when refrigeration is needed. This allows trucks with refrigerated cargo to keep their cargo cool without using their engines, minimizing idling time to reduce air emissions and use of fuel onsite.

## Operational Assumptions - High Cube Warehouse

| ***Mobile source emissions*** | | | | BLDG1 | BLDG2 | VMT |
|---|---|---|---|---|---|---|
| Total Vehicles[3] | 3,108 | | | 1,434 | 1,674 | 84,844 |
| Autos[3] | 1,687 | | | 778 | 909 | 28,004 |
| Trucks[3] | 1,421 | | | 656 | 765 | 56,840 |
| | 241 | 2-axel | | 111 | 130 | |
| | 327 | 3-axel | | 150 | 177 | |
| | 853 | 4-axel | | 393 | 460 | |
| Annual VMT | | | | 14,296,685 | 16,671,375 | 30,968,060 |
| Daily VMT[3] | 84,844 | | | 39,169 | 45,675 | |
| | 54.28% | autos at 16.6 miles/trip | | 0 | 0 | |
| | 45.72% | trucks at 40 miles/trip | | 0 | 0 | |
| Trip Rate[3] | 1.4040 | trips per ksf | Total | 26,240 | 30,600 | Truck Dail |

| Fleet Mix | CalEEMod | | Project | | | |
|---|---|---|---|---|---|---|
| Designation | Default % Total | % of Project Category | Designation | % Project | Revised CalEEMod % |
| | | Non-Truck | | | |
| LDA | 0.538064 | 0.7028628 | Non-Truck | 0.5427928 | 0.3815089 |
| LDT1 | 0.038449 | 0.0502252 | Non-Truck | | 0.0272619 |
| LDT2 | 0.184390 | 0.2408652 | Non-Truck | | 0.1307399 |
| MCY | 0.004629 | 0.0060468 | Non-Truck | | 0.0032821 |
| | | Truck | | | |
| MDV | 0.122109 | 1 | 2-Axle | 0.0775418 | 0.0775418 |
| LHDT1 | 0.017402 | 0.7652258 | 3-Axle | 0.1052124 | 0.0805112 |
| LHDT2 | 0.005339 | 0.2347742 | 3-Axle | | 0.0247011 |
| MHDT | 0.017250 | 0.2030343 | 4-Axel | 0.274453 | 0.0557234 |
| HHDT | 0.067711 | 0.7969657 | 4-Axel | | 0.2187296 |

***Area source emissions*** Default Emissions Used

***Energy Use*** Default Emissions Used for Electricity. No Natural Gas Consumption

***Water and Wastewater***

| | |
|---|---|
| 109 | Acre feet per year[5] |
| 35,517,806.23 | gallons per year - 100% indoor use assumed |
| 243,004.67 | gallons per acre |
| 17,515,825.54 | Building 1 |
| 17,102,863.39 | Building 2 |
| 34,618,688.93 | Total both buildings |

Note: for convenience maximum acre feet per year consumption is divided by acres to associate the usage with each building. Water is modeled as associated with the non-refrigerated warehouse portion as it is larger.

*109 acre feet per year is the maximum consumption for this site regardless of use.*

***Solid Waste***

| | | |
|---|---|---|
| 963.33 | tons per year | Bldg1 |
| 1,097.95 | tons per year | Bldg2 |
| 2,061.28 | total Solid Waste | |
| 1,563 | number of employees | |
| 1.32 | tons per employee | |

## Operational Assumptions - Intensive Ecommerce

| ***Mobile source emissions*** | | | | BLDG1 | BLDG2 | VMT |
|---|---|---|---|---|---|---|
| Total Vehicles[3] | 14285 | | | 6,594 | 7,691 | 273,237 |
| Autos[3] | 12742 | | | 5,882 | 6,860 | 211,517 |
| Trucks[3] | 1543 | | | 712 | 831 | 61,720 |
| | 494 | 2-axel | | 228 | 266 | |
| | 339 | 3-axel | | 156 | 183 | |
| | 710 | 4-axel | | 327 | 383 | |
| Annual VMT | | | | 46,042,195 | 53,689,310 | 99,731,505 |
| Daily VMT[3] | 273,237 | | | 126,143 | 147,094 | |
| | 89% | autos at 16.6 miles/trip | | 112,518 | | |
| | 11% | trucks at 40 miles/trip | | | | |
| Trip Rate[3] | 6.4372 | trips per ksf | Bldg 1 | | | |
| | 6.4372 | trips per ksf | Bldg 2 | | | |

| Fleet Mix | CalEEMod | | Project | | | |
|---|---|---|---|---|---|---|
| Designation | Default % Total | % of Project Category | Designation | % Project | Revised CalEEMod % |
| | | Non-Truck | | | |
| LDA | 0.538064 | 0.7028628 | Non-Truck | 0.8919846 | 0.6269428 |
| LDT1 | 0.038449 | 0.0502252 | Non-Truck | | 0.0448001 |
| LDT2 | 0.184390 | 0.2408652 | Non-Truck | | 0.214848 |
| MCY | 0.004629 | 0.0060468 | Non-Truck | | 0.0053936 |
| | | Truck | | | |
| MDV | 0.122109 | 1 | 2-Axle | 0.0345817 | 0.0345817 |
| LHDT1 | 0.017402 | 0.7652258 | 3-Axle | 0.0237312 | 0.0181597 |
| LHDT2 | 0.005339 | 0.2347742 | 3-Axle | | 0.0055715 |
| MHDT | 0.017250 | 0.2030343 | 4-Axel | 0.0497025 | 0.0100913 |
| HHDT | 0.067711 | 0.7969657 | 4-Axel | | 0.0396112 |

***Area source emissions*** Default Emissions Used

***Energy Use*** Energy Use adjusted based on # of Employees and Default for General Warehouse Use for Electricity. No Natural Gas Consumption.

| | | Electric | | |
|---|---|---|---|---|
| Energy | | Title 24 | Non T-24 | Lighting |
| Default | | 0.37 | 0.82 | 1.17 |
| | % total | 15.68% | 34.75% | 49.58% |
| | % non lighting | 31.09% | 68.91% | |
| Revised IE | | 0.71 | 1.58 | 1.30 |

Default Energy

Electricity

5,779,231.00 Default From CalEEMod
2,865,127.23 kWh from Lighting
2,199,852.00 sqft
1.30 kWh per sqft
2,914,103.77 kWh Not Lighting
2,075,195 kWh from employees
1,563 # Employees
1,327.70 kWh per employee
838,909 kWh by building sqft only
2,199,852 sqft
0.38 kWh per sqft

Revised Energy

2,199,852 sqft
3,171 #employees
2,865,127 kWh from Lighting
4,210,137 kWh from Employees
838,909 kWh from Building sqft

| Breakdown[4] | | Building Size | Employee | Non-Lighting % |
|---|---|---|---|---|
| | | Electricity | | |
| Refrigeration | 6% | | X | 9.1% |
| Computer | 6% | | X | 9.1% |
| Cooling | 14% | X | | 21.2% |
| Lighting | 34% | X | | |
| Ventilation | 5% | X | | 7.6% |
| Miscellaneus | 35% | | X | 53.0% |
| | | NG | | |
| Heating | 87% | X | | |
| Water Heating | 8% | | X | |
| Miscellaneus | 5% | | X | |

*Note: Parking lot energy uses default for CalEEMod for both electricity and natural gas.

***Water and Wastewater***

| | |
|---|---|
| 109 | Acre feet per year[5] |
| 35,517,806.23 | gallons per year - 100% indoor use assumed |
| 243,004.67 | gallons per acre |
| 17,515,825.54 | Building 1 |
| 17,102,863.39 | Building 2 |
| 34,618,688.93 | Total |

*109 acre feet per year is the maximum consumption for this site regardless of use.*

***Solid Waste***

| | |
|---|---|
| 3,171 | number of employees |
| 1.32 | tons per employee |
| 4,181.91 | tons/year Bldg1 |

## Sources

***Sources***


[1] CUPC 2017.

[2] *Construction Assumptions - Applicant provided information*

[3] *VRPA Technologies, Inc. 2018. Veterans Industrial Park (VIP) 215 Development Traffic Impact Study Report, August.*

[4] *https://ouc.bizenergyadvisor.com/warehouses*

[5] *Water Supply Assessment - will update the reference once we get a response.*

# Greenhouse Gas Analysis
# Veterans Industrial Project - 215
## 2. Two Building Scenario - Summary

## 2. Two Building Scenario - Summary

### a. Unmitigated Summary

# Veterans Industrial Project - 215
## Unmitigated GHG Summary

CalEEMod 2016.3.2

Title: VIP 215 - Construction Only - BLDG 1 - Construction Unmitigated Date: 12/21/2018

VIP 215 - Construction Only - BLDG 2 - Construction Unmitigated 12/21/2018

**Unmitigated Construction Emissions - Max Annual**

| | MT $CO_2e$ | | | | |
|---|---|---|---|---|---|
| | **Onsite** | **Hauling** | **Vendor** | **Worker** | **Total** |
| | | | ***Building 1*** | | |
| Excavation/Mass Grading | 235.332 | 247.2728 | 15.5035 | 11.419 | 510 |
| Paving | 127.7495 | 58.05178 | 12.9196 | 9.5157 | 208 |
| Concrete Pour | 349.1097 | 108.0772 | 3.1007 | 9.5157 | 470 |
| Building Construction | 293.3581 | 0 | 74.9336 | 55.191 | 423 |
| Architectural Coating | 15.3519 | 0 | 1.55035 | 1.5225 | 18 |
| Subtotal | | | | | 1,629 |
| | | | ***Offsite Improvement Areas*** | | |
| Road Construction | 79.5868 | 0 | 7.75175 | 6.4707 | 94 |
| | | | ***Building 2*** | | |
| Concrete Pour | 346.2458 | 118.6053 | 2.9178 | 8.6875 | 476 |
| Building Construction | 293.3581 | 0.0000 | 70.5124 | 50.3876 | 414 |
| Paving | 127.7495 | 89.4781 | 12.1573 | 8.6875 | 238 |
| Architectural Coating | 15.3519 | 0.0000 | 1.4589 | 1.3900 | 18 |
| Subtotal | | | | | 1,147 |
| ***Project Total*** | | | | | *2,870* |
| ***Amortized Construction*** | | | | | *96* |

***Mitigation:***

***2 Use Tier 4 Final Equipment - with the exception of specality equipment such as laser screed, ride-on finisher, and soft cut machine***

# Veterans Industrial Project - 215
## Unmitigated GHG Summary

| | | | |
|---|---|---|---|
| CalEEMod | 2016.3.2 | | |
| Title: | VIP 215 - Construction Only - BLDG 1 - Construction Unmitigated | Date: | 12/21/2018 |
| | VIP 215 - Construction Only - BLDG 2 - Construction Unmitigated | | 12/21/2018 |
| CalEEMod Title: | VIP High Cube Warehouse - Operational | Date: | 12/21/2018 |

**Operational Emissions - Max Annual - HCW**

| | *Unmitigated* |
|---|---|
| | ***2019*** |
| Area | *0* |
| Energy | *1,594* |
| Mobile | *32,154* |
| Truck | 29,008 |
| Auto | *3,147* |
| Waste | *2,287* |
| Water | *138* |
| Total Operational: | *36,174* |
| Amortized Construction: | 96 |
| Total Project: | 36,269 |

Note: Waste was modeled at 2,061.28 tons per year based on CalEEMod defaults. The Utilities section assumes 4,548 tons per year. CalEEMod waste emissions were scaled to account for the 4,548 tons per year

# Veterans Industrial Project - 215
## Unmitigated GHG Summary

| | | | |
|---|---|---|---|
| CalEEMod | 2016.3.2 | | |
| Title: | VIP 215 - Construction Only - BLDG 1 - Construction Unmitigated | Date: | 12/21/2018 |
| | VIP 215 - Construction Only - BLDG 2 - Construction Unmitigated | | 12/21/2018 |
| CalEEMod Title: | VIP2015 - IE - Operational Only | Date: | 12/21/2018 |

**Operational Emissions - Max Annual - Intensive Ecommerce**

| | *Unmitigated* |
|---|---|
| | ***2019*** |
| Area | *0* |
| Energy | *2,074* |
| Mobile | *54,771* |
| Truck | 31,004 |
| Auto | *23,767* |
| Waste | *4,641* |
| Water | *138* |
| Total Operational: | 61,623 |
| Amortized Construction: | 96 |
| Total Project: | 61,719 |

Note: Waste was modeled at 4,181.9 tons per year based on CalEEMod defaults. Waste estimates from the Utilities section assumes 9,228 tons per year. CalEEMod waste emissions are scaled to reflect the generation of 9,228 tons per year.

# Veterans Industrial Project - 215
## Unmitigated GHG Summary

CalEEMod 2016.3.2

Title: VIP 215 - Construction Only - BLDG 1 - Construction Unmitigated — Date: 12/21/2018

VIP 215 - Construction Only - BLDG 2 - Construction Unmitigated — 12/21/2018

***Mitigation:***

| | | |
|---|---|---|
| 1 | Reduction from Mobile Sources | %Red |
| | 2019/2010 or better | 17.25% |

| | | |
|---|---|---|
| 2 | Commute Trip Reduction | |
| | CAPCOA TRT-1 | |
| | Low Density Suburb | 5.20% |
| | Employee Eligibility | 25% |
| | Percent Reduction in Commute Trips | 1.3000% |

## 2. Two Building Scenario - Summary
## b. Mitigated Summary

# Veterans Industrial Project - 215
## Mitigated GHG Summary

CalEEMod 2016.3.2

Title: VIP 215 - Construction Only - BLDG 1 - Construction Unmitigated Date: 12/21/2018

VIP 215 - Construction Only - BLDG 2 - Construction Unmitigated 12/21/2018

***Mitigation:***

| | | | |
|---|---|---|---|
| 1 | Reduction from Mobile Sources | | %Red |
| | | 2019/2010 or better | 17.25% |

| | | | |
|---|---|---|---|
| 2 | Commute Trip Reduction | | |
| | | CAPCOA TRT-1 | |
| | | Low Density Suburb | 5.20% |
| | | Employee Eligibility | 25% |
| | | Percent Reduction in Commute Trips | 1.3000% |

# Veterans Industrial Project - 215

## Mitigated CalEEMod GHG Output - Summary

CalEEMod 2016.3.2

Title: VIP 215 - Construction Only - BLDG 1 - Construction Mitigated Date: 12/21/2018

VIP 215 - Construction Only - BLDG 2 - Construction Mitigated 12/21/2018

**Mitigated Construction Emissions - Max Annual**

| | MT $CO_2e$ | | | | |
|---|---|---|---|---|---|
| | **Onsite** | **Hauling** | **Vendor** | **Worker** | **Total** |
| | | | ***Building 1*** | | |
| Excavation/Mass Grading | 235.332 | 204.60816 | 15.5035 | 11.4188 | 467 |
| Paving | 112.6265 | 48.035477 | 12.9196 | 9.51569 | 183 |
| Concrete Pour | 355.2134 | 89.429483 | 3.1007 | 9.51569 | 457 |
| Building Construction | 293.3581 | 0 | 74.9336 | 55.191 | 423 |
| Architectural Coating | 20.4692 | 0 | 2.06713 | 2.03001 | 25 |
| Subtotal | | | | | 1,555 |
| | | | ***Offsite Improvement Areas*** | | |
| Road Construction | 79.5868 | 0 | 7.75175 | 6.47067 | 94 |
| | | | ***Building 2*** | | |
| Concrete Pour | 346.2458 | 98.141029 | 2.9178 | 8.6875 | 456 |
| Building Construction | 293.3581 | 0 | 70.5124 | 50.3876 | 414 |
| Paving | 127.7495 | 74.039487 | 12.1573 | 8.6875 | 223 |
| Architectural Coating | 20.4692 | 0 | 1.94517 | 1.85334 | 24 |
| Subtotal | | | | | 1,117 |
| ***Project Total*** | | | | | *2,766* |
| ***Amortized Construction*** | | | | | *92* |

# Veterans Industrial Project - 215

## Mitigated CalEEMod GHG Output - Summary

| | | | |
|---|---|---|---|
| CalEEMod | 2016.3.2 | | |
| Title: | VIP 215 - Construction Only - BLDG 1 - Construction Mitigated | Date: | 12/21/2018 |
| | VIP 215 - Construction Only - BLDG 2 - Construction Mitigated | | 12/21/2018 |
| CalEEMod Title: | VIP High Cube Warehouse - Operational | Date: | 12/21/2018 |

**Mitigated Operational Emissions - Max Annual - HCW**

| | ***Mitigated 2010 or better*** |
|---|---|
| | ***2019*** |
| Area | *0* |
| Energy | *1,579* |
| Mobile | *27,109* |
| Waste | *1,144* |
| Water | *131* |
| Total Operational: | *29,962* |
| Amortized Construction: | ***92*** |
| Total Project: | *30,054* |

# Veterans Industrial Project - 215

## Mitigated CalEEMod GHG Output - Summary

| | | | |
|---|---|---|---|
| CalEEMod | 2016.3.2 | | |
| Title: | VIP 215 - Construction Only - BLDG 1 - Construction Mitigated | Date: | 12/21/2018 |
| | VIP 215 - Construction Only - BLDG 2 - Construction Mitigated | | 12/21/2018 |
| CalEEMod Title: | VIP2015 - IE - Operational Only | Date: | 12/21/2018 |

**Mitigated Operational Emissions - Max Annual - Intensive Ecommerce**

| | *Mitigated 2010 or better* |
|---|---|
| | ***2019*** |
| Area | *0* |
| Energy | *2,046* |
| Mobile | *49,113* |
| Waste | 2,320 |
| Water | *131* |
| Total Operational: | *53,610* |
| Amortized Construction: | ***92*** |
| Total Project: | *53,703* |

# 3. One Building Scenario

## 3. One Building Scenario
## a. Unmitigated Summary

# Veterans Industrial Project - 215
## Unmitigated GHG Summary

CalEEMod 2016.3.2

Title: VIP 215 - 1 Building Option -Construction Only - Unmitigated Date: 2/13/2020

EMFAC2017 - One Building Option 2/13/2020

### Unmitigated Construction Emissions - Max Annual

| | MT $CO_2e$ | | | | |
|---|---|---|---|---|---|
| | **Onsite** | **Hauling** | **Vendor** | **Worker** | **Total** |
| | | | ***Building 1*** | | |
| Excavation/Mass Grading | 423.5191 | 846.7902 | 27.9063 | 20.554 | 1,319 |
| Paving | 112.2644 | 197.3963 | 19.3794 | 14.274 | 343 |
| Concrete Pour | 519.368 | 443.109 | 4.65105 | 21.41 | 989 |
| Building Construction | 530.0474 | 0 | 135.397 | 199.45 | 865 |
| Architectural Coating | 38.3796 | 0 | 2.27385 | 2.233 | 43 |
| Subtotal | | | | | 3,558 |
| | | | ***Offsite Improvement Areas*** | | |
| Road Construction | 79.5868 | 0 | 7.75175 | 6.4707 | 94 |
| ***Project Total*** | | | | | *3,652* |
| ***Amortized Construction*** | | | | | *122* |

***Mitigation:***

***2 Use Tier 4 Final Equipment - with the exception of specality equipment such as laser screed, ride-on finisher, and soft cut machine***

**Operational Emissions - Max Annual - Intensive Ecommerce**

| | *Unmitigated* |
|---|---|
| | ***2019*** |
| Area | *0* |
| Energy | *2,074* |
| Mobile | *54,771* |
| Truck | 31,004 |
| Auto | *23,767* |
| Waste | *4,641* |
| Water | *138* |
| Total Operational: | 61,623 |
| Amortized Construction: | 122 |
| Total Project: | 61,745 |

Note: Waste was modeled at 4,181.9 tons per year based on CalEEMod defaults. Waste estimates from the Utilities section assumes 9,228 tons per year. CalEEMod waste emissions are scaled to reflect the generation of 9,228 tons per year.

| | |
|---|---|
| 4181.9 | 9228 |
| 2103.0889 | 4640.786334 |
| | |
| 0.502902724 | 4640.786334 |
| | |
| 1051.5444 | |
| 0.25145135 | 2320.393057 |
| | |
| 525.7722 | |
| 0.125725675 | 1.16E+03 |

**3. One Building Scenario**
**b. Mitigated Summary**

# Veterans Industrial Project - 215
## Mitigated CalEEMod GHG Output - Summary

CalEEMod 2016.3.2

Title: VIP 215 - 1 Building Option -Construction Only - Mitigated Date: 2/13/2020

EMFAC2017 - One Building Option 2/13/2020

### Mitigated Construction Emissions - Max Annual

| | MT $CO_2e$ | | | | |
|---|---|---|---|---|---|
| | **Onsite** | **Hauling** | **Vendor** | **Worker** | **Total** |
| | | | ***Building 1*** | | |
| Excavation/Mass Grading | 423.5191 | 700.68424 | 27.9063 | 20.5539 | 1,173 |
| Paving | 112.2644 | 163.33737 | 19.3794 | 14.2735 | 309 |
| Concrete Pour | 519.368 | 366.65459 | 4.65105 | 21.4103 | 912 |
| Building Construction | 530.0474 | 0 | 135.397 | 199.449 | 865 |
| Architectural Coating | 38.3796 | 0 | 3.03179 | 2.97735 | 44 |
| Subtotal | | | | | 3,303 |
| | | | ***Offsite Improvement Areas*** | | |
| Road Construction | 79.5868 | 0 | 7.75175 | 6.47067 | 94 |
| ***Project Total*** | | | | | *3,397* |
| ***Amortized Construction*** | | | | | *113* |

**Mitigated Operational Emissions - Max Annual - Intensive Ecommerce**

| | *Mitigated 2010 or better* |
|---|---|
| | ***2019*** |
| Area | *0* |
| Energy | *2,046* |
| Mobile | *49,113* |
| Waste | 2,320 |
| Water | *131* |
| Total Operational: | *53,610* |
| Amortized Construction: | ***113*** |
| Total Project: | *53,724* |

# Greenhouse Gas Analysis
# Veterans Industrial Project - 215
## 4. CalEEMod Output
### a. Construction Two Buildings

**4. CalEEMod Output**

**a. Construction Two Buildings**

**1. VIP 215 - Construction Only - BLDG 1 - Construction Unmitigated**

# VIP215 - Construction Only - BLDG1 - Unmitigated

**Riverside-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 | 1,024.82 | 1000sqft | 84.00 | 1,024,820.00 | 0 |
| Parking Lot | 34.15 | Acre | 42.24 | 1,487,574.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.4 | **Precipitation Freq (Days)** | 28 |
| **Climate Zone** | 10 | | | **Operational Year** | 2020 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 531.74 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Grading - See Assumptions

Trips and VMT - See Assumptions

Architectural Coating - See Assumptions

Vehicle Trips -

Construction Off-road Equipment Mitigation - See Assumptions

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | ConstArea_Nonresidential_Exterior | 512,410.00 | 194,496.00 |
| tblArchitecturalCoating | ConstArea_Nonresidential_Interior | 1,537,230.00 | 3,404.00 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 3.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 6.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 10.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 11.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 11.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |

| | | | |
|---|---|---|---|
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstructionPhase | NumDays | 220.00 | 30.00 |
| tblConstructionPhase | NumDays | 3,100.00 | 145.00 |
| tblConstructionPhase | NumDays | 310.00 | 30.00 |
| tblConstructionPhase | NumDays | 220.00 | 50.00 |
| tblConstructionPhase | NumDays | 120.00 | 30.00 |
| tblConstructionPhase | NumDays | 3,100.00 | 30.00 |
| tblConstructionPhase | PhaseEndDate | 12/31/2018 | 12/12/2019 |
| tblConstructionPhase | PhaseEndDate | 12/31/2018 | 12/6/2019 |
| tblConstructionPhase | PhaseEndDate | 12/31/2018 | 2/11/2019 |
| tblConstructionPhase | PhaseEndDate | 12/31/2018 | 5/17/2019 |
| tblConstructionPhase | PhaseEndDate | 12/31/2018 | 3/25/2019 |
| tblConstructionPhase | PhaseStartDate | 1/1/2019 | 11/1/2019 |
| tblConstructionPhase | PhaseStartDate | 1/1/2019 | 5/18/2019 |
| tblConstructionPhase | PhaseStartDate | 1/1/2019 | 3/11/2019 |
| tblConstructionPhase | PhaseStartDate | 1/1/2019 | 2/12/2019 |
| tblGrading | AcresOfGrading | 315.00 | 775.00 |
| tblGrading | MaterialExported | 0.00 | 128,487.00 |
| tblLandUse | LotAcreage | 23.53 | 84.00 |
| tblLandUse | LotAcreage | 34.15 | 42.24 |
| tblOffRoadEquipment | HorsePower | 172.00 | 64.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | HorsePower | 172.00 | 31.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 27.00 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.42 | 0.31 |
| tblOffRoadEquipment | LoadFactor | 0.42 | 0.45 |
| tblOffRoadEquipment | LoadFactor | 0.42 | 0.43 |
| tblOffRoadEquipment | LoadFactor | 0.20 | 0.20 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.48 | 0.48 |
| tblOffRoadEquipment | LoadFactor | 0.37 | 0.37 |
| tblOffRoadEquipment | LoadFactor | 0.37 | 0.37 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Trenchers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rollers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Forklifts |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Scrapers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentType | | Skid Steer Loaders |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 3.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 10.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 6.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 18.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 20.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 20.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 531.74 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 3,744.00 |
| tblTripsAndVMT | HaulingTripNumber | 16,061.00 | 8,566.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 2,011.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 2.00 |
| tblTripsAndVMT | VendorTripNumber | 412.00 | 20.00 |
| tblTripsAndVMT | VendorTripNumber | 412.00 | 4.00 |

| | | | |
|---|---|---|---|
| tblTripsAndVMT | VendorTripNumber | 0.00 | 20.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 10.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 10.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 211.00 | 8.00 |
| tblTripsAndVMT | WorkerTripNumber | 1,055.00 | 60.00 |
| tblTripsAndVMT | WorkerTripNumber | 1,055.00 | 50.00 |
| tblTripsAndVMT | WorkerTripNumber | 33.00 | 60.00 |
| tblTripsAndVMT | WorkerTripNumber | 33.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 28.00 | 34.00 |

## 2.0 Emissions Summary

- Summary Not Used

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Excavation - Mass Grading | Grading | 1/1/2019 | 2/11/2019 | 5 | 30 | |
| 2 | Road Construction | Site Preparation | 2/12/2019 | 3/25/2019 | 5 | 30 | |
| 3 | Paving | Paving | 3/11/2019 | 5/17/2019 | 5 | 50 | |
| 4 | Concrete Pour | Building Construction | 3/26/2019 | 5/6/2019 | 5 | 30 | |
| 5 | Building Construction | Building Construction | 5/18/2019 | 12/6/2019 | 5 | 145 | |
| 6 | Architectural Coating | Architectural Coating | 11/1/2019 | 12/12/2019 | 5 | 30 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 42.24**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,404; Non-Residential Outdoor: 194,496; Striped Parking Area:**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Architectural Coating | Air Compressors | 3 | 8.00 | 78 | 0.48 |
| Concrete Pour | Cranes | 0 | 7.00 | 231 | 0.29 |
| Concrete Pour | Forklifts | 1 | 18.00 | 89 | 0.20 |
| Excavation - Mass Grading | Excavators | 0 | 8.00 | 158 | 0.38 |
| Building Construction | Cranes | 1 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 3 | 8.00 | 84 | 0.74 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Rollers | 1 | 8.00 | 80 | 0.38 |
| Concrete Pour | Generator Sets | 8 | 20.00 | 84 | 0.74 |
| Excavation - Mass Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Excavation - Mass Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Excavation - Mass Grading | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Road Construction | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Road Construction | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Excavation - Mass Grading | Scrapers | 10 | 8.00 | 367 | 0.48 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Concrete Pour | Tractors/Loaders/Backhoes | 1 | 20.00 | 97 | 0.37 |
| Concrete Pour | Welders | 1 | 8.00 | 46 | 0.45 |
| Road Construction | Excavators | 2 | 8.00 | 158 | 0.38 |
| Road Construction | Trenchers | 2 | 8.00 | 78 | 0.50 |
| Concrete Pour | Off-Highway Trucks | 1 | 8.00 | 402 | 0.38 |

| | | | | | |
|---|---|---|---|---|---|
| Concrete Pour | Off-Highway Trucks | 1 | 24.00 | 402 | 0.38 |
| Concrete Pour | Rollers | 1 | 20.00 | 80 | 0.38 |
| Excavation - Mass Grading | Off-Highway Trucks | 1 | 4.00 | 402 | 0.38 |
| Road Construction | Off-Highway Trucks | 1 | 4.00 | 402 | 0.38 |
| Concrete Pour | Other Construction Equipment | 2 | 24.00 | 64 | 0.31 |
| Concrete Pour | Other Construction Equipment | 8 | 24.00 | 31 | 0.45 |
| Concrete Pour | Other Construction Equipment | 5 | 24.00 | 27 | 0.43 |
| Paving | Forklifts | 2 | 8.00 | 89 | 0.20 |
| Paving | Off-Highway Trucks | 1 | 4.00 | 402 | 0.38 |
| Paving | Scrapers | 1 | 8.00 | 367 | 0.48 |
| Paving | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Skid Steer Loaders | 1 | 8.00 | 65 | 0.37 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Architectural Coating | 3 | 8.00 | 2.00 | 0.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 13 | 60.00 | 20.00 | 0.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Concrete Pour | 29 | 50.00 | 4.00 | 3,744.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Excavation - Mass Grading | 13 | 60.00 | 20.00 | 8,566.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 13 | 30.00 | 10.00 | 2,011.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Road Construction | 11 | 34.00 | 10.00 | 0.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

***NOTE: Due to Project Design Features to use Tier 3 equipment the "Mitigated" CalEEMod scenario represents the Unmitigated Project Emissions. Offsite Emissions modeled outside of CalEEMod.***

## 3.2 Excavation - Mass Grading - 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 | | | | | |
| Fugitive Dust | | | | | 0.1887 | 0.0000 | 0.1887 | 0.0353 | 0.0000 | 0.0353 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0669 | 1.2431 | 1.3625 | 2.6000e-003 | | 0.0471 | 0.0471 | | 0.0469 | 0.0469 | 0.0000 | 233.4864 | 233.4864 | 0.0739 | 0.0000 | 235.3332 |
| **Total** | **0.0669** | **1.2431** | **1.3625** | **2.6000e-003** | **0.1887** | **0.0471** | **0.2358** | **0.0353** | **0.0469** | **0.0822** | **0.0000** | **233.4864** | **233.4864** | **0.0739** | **0.0000** | **235.3332** |

## 3.3 Road Construction - 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 | | | | | |
| Fugitive Dust | | | | | 0.1004 | 0.0000 | 0.1004 | 0.0552 | 0.0000 | 0.0552 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0244 | 0.4441 | 0.5331 | 8.8000e-004 | | 0.0219 | 0.0219 | | 0.0217 | 0.0217 | 0.0000 | 78.9622 | 78.9622 | 0.0250 | 0.0000 | 79.5868 |
| **Total** | **0.0244** | **0.4441** | **0.5331** | **8.8000e-004** | **0.1004** | **0.0219** | **0.1223** | **0.0552** | **0.0217** | **0.0769** | **0.0000** | **78.9622** | **78.9622** | **0.0250** | **0.0000** | **79.5868** |

## 3.4 Paving - 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 | 0.0395 | 0.7188 | 0.9084 | 1.4100e-003 | | 0.0370 | 0.0370 | | 0.0367 | 0.0367 | 0.0000 | 126.7469 | 126.7469 | 0.0401 | 0.0000 | 127.7495 |
| Paving | 0.0553 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0949** | **0.7188** | **0.9084** | **1.4100e-003** | | **0.0370** | **0.0370** | | **0.0367** | **0.0367** | **0.0000** | **126.7469** | **126.7469** | **0.0401** | **0.0000** | **127.7495** |

### 3.5 Concrete Pour - 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 | 0.2501 | 2.3476 | 2.5244 | 3.9600e-003 | | 0.1581 | 0.1581 | | 0.1519 | 0.1519 | 0.0000 | 347.4447 | 347.4447 | 0.0666 | 0.0000 | 349.1097 |
| **Total** | **0.2501** | **2.3476** | **2.5244** | **3.9600e-003** | | **0.1581** | **0.1581** | | **0.1519** | **0.1519** | **0.0000** | **347.4447** | **347.4447** | **0.0666** | **0.0000** | **349.1097** |

### 3.6 Building Construction - 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 | 0.1474 | 1.7697 | 2.2601 | 3.4100e-003 | | 0.1145 | 0.1145 | | 0.1145 | 0.1145 | 0.0000 | 291.9786 | 291.9786 | 0.0552 | 0.0000 | 293.3577 |
| **Total** | **0.1474** | **1.7697** | **2.2601** | **3.4100e-003** | | **0.1145** | **0.1145** | | **0.1145** | **0.1145** | **0.0000** | **291.9786** | **291.9786** | **0.0552** | **0.0000** | **293.3577** |

### 3.7 Architectural Coating - 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 | | | | | |
| Archit. Coating | 0.6655 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 3.5700e-003 | 0.0814 | 0.1099 | 1.8000e-004 | | 5.7100e-003 | 5.7100e-003 | | 5.7100e-003 | 5.7100e-003 | 0.0000 | 15.3195 | 15.3195 | 1.2900e-003 | 0.0000 | 15.3519 |
| **Total** | **0.6691** | **0.0814** | **0.1099** | **1.8000e-004** | | **5.7100e-003** | **5.7100e-003** | | **5.7100e-003** | **5.7100e-003** | **0.0000** | **15.3195** | **15.3195** | **1.2900e-003** | **0.0000** | **15.3519** |

## 4.0 Operational Detail - Mobile

- Operation Modeled Separately

**4. CalEEMod Output**

**a. Construction Two Buildings**

**2 VIP 215 - Construction Only - BLDG 2 - Construction Unmitigated**

VIP215 - Construction Only - BLDG2 - Unitigated - Riverside-South Coast County, Annual

# VIP215 - Construction Only - BLDG2 - Unitigated

**Riverside-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 | 1,195.03 | 1000sqft | 46.45 | 1,195,030.00 | 0 |
| Parking Lot | 23.93 | Acre | 23.93 | 1,042,390.80 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.4 | **Precipitation Freq (Days)** | 28 |
| **Climate Zone** | 10 | | | **Operational Year** | 2020 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 531.74 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Grading - See Assumptions

Trips and VMT - See Assumptions

Architectural Coating - See Assumptions

Vehicle Trips -

Construction Off-road Equipment Mitigation - See Assumptions

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | ConstArea_Nonresidential_Exterior | 597,515.00 | 210,048.00 |
| tblArchitecturalCoating | ConstArea_Nonresidential_Interior | 1,792,545.00 | 3,676.00 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 3.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 3.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 6.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 7.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 11.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |

| | | | |
|---|---|---|---|
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstructionPhase | NumDays | 75.00 | 30.00 |
| tblConstructionPhase | NumDays | 1,110.00 | 145.00 |
| tblConstructionPhase | NumDays | 75.00 | 50.00 |
| tblConstructionPhase | NumDays | 1,110.00 | 30.00 |
| tblConstructionPhase | PhaseEndDate | 8/28/2028 | 12/12/2019 |
| tblConstructionPhase | PhaseEndDate | 10/30/2023 | 12/6/2019 |
| tblConstructionPhase | PhaseEndDate | 5/15/2028 | 5/17/2019 |
| tblConstructionPhase | PhaseEndDate | 1/31/2028 | 5/6/2019 |
| tblConstructionPhase | PhaseStartDate | 5/16/2028 | 11/1/2019 |
| tblConstructionPhase | PhaseStartDate | 7/30/2019 | 5/18/2019 |
| tblConstructionPhase | PhaseStartDate | 2/1/2028 | 3/11/2019 |
| tblConstructionPhase | PhaseStartDate | 10/31/2023 | 3/26/2019 |
| tblLandUse | LotAcreage | 27.43 | 46.45 |
| tblOffRoadEquipment | HorsePower | 172.00 | 65.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 31.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 27.00 |
| tblOffRoadEquipment | LoadFactor | 0.42 | 0.31 |
| tblOffRoadEquipment | LoadFactor | 0.42 | 0.45 |
| tblOffRoadEquipment | LoadFactor | 0.42 | 0.43 |
| tblOffRoadEquipment | LoadFactor | 0.20 | 0.20 |
| tblOffRoadEquipment | LoadFactor | 0.38 | 0.38 |
| tblOffRoadEquipment | LoadFactor | 0.48 | 0.48 |
| tblOffRoadEquipment | LoadFactor | 0.37 | 0.37 |
| tblOffRoadEquipment | LoadFactor | 0.37 | 0.37 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rollers |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Forklifts |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Scrapers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentType | | Skid Steer Loaders |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | UsageHours | 6.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 18.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 20.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 20.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 531.74 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 4,365.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 3,293.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |
| tblTripsAndVMT | VendorTripLength | 6.90 | 20.00 |

| | | | |
|---|---|---|---|
| tblTripsAndVMT | VendorTripNumber | 0.00 | 2.00 |
| tblTripsAndVMT | VendorTripNumber | 367.00 | 60.00 |
| tblTripsAndVMT | VendorTripNumber | 367.00 | 4.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 10.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripLength | 14.70 | 20.00 |
| tblTripsAndVMT | WorkerTripNumber | 188.00 | 8.00 |
| tblTripsAndVMT | WorkerTripNumber | 940.00 | 60.00 |
| tblTripsAndVMT | WorkerTripNumber | 940.00 | 50.00 |
| tblTripsAndVMT | WorkerTripNumber | 33.00 | 30.00 |

## 2.0 Emissions Summary

- Summary not used

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Building Construction | Building Construction | 5/18/2019 | 12/6/2019 | 5 | 145 | |
| 2 | Concrete Pour | Building Construction | 3/26/2019 | 5/6/2019 | 5 | 30 | |
| 3 | Paving | Paving | 3/11/2019 | 5/17/2019 | 5 | 50 | |
| 4 | Architectural Coating | Architectural Coating | 11/1/2019 | 12/12/2019 | 5 | 30 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 23.93**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,676; Non-Residential Outdoor: 210,048; Striped Parking Area:**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Architectural Coating | Air Compressors | 3 | 8.00 | 78 | 0.48 |
| Concrete Pour | Cranes | 0 | 7.00 | 231 | 0.29 |
| Concrete Pour | Forklifts | 1 | 18.00 | 89 | 0.20 |
| Concrete Pour | Off-Highway Trucks | 1 | 8.00 | 402 | 0.38 |
| Building Construction | Cranes | 1 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 3 | 8.00 | 84 | 0.74 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Rollers | 1 | 8.00 | 80 | 0.38 |
| Concrete Pour | Generator Sets | 8 | 20.00 | 84 | 0.74 |
| Concrete Pour | Off-Highway Trucks | 1 | 24.00 | 402 | 0.38 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Concrete Pour | Rollers | 1 | 20.00 | 80 | 0.38 |
| Concrete Pour | Other Construction Equipment | 2 | 24.00 | 65 | 0.31 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Concrete Pour | Other Construction Equipment | 8 | 24.00 | 31 | 0.45 |
| Concrete Pour | Other Construction Equipment | 5 | 24.00 | 27 | 0.43 |
| Paving | Forklifts | 2 | 8.00 | 89 | 0.20 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Concrete Pour | Tractors/Loaders/Backhoes | 1 | 20.00 | 97 | 0.37 |
| Concrete Pour | Welders | 0 | 8.00 | 46 | 0.45 |
| Paving | Off-Highway Trucks | 1 | 4.00 | 402 | 0.38 |
| Paving | Scrapers | 1 | 8.00 | 367 | 0.48 |
| Paving | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Skid Steer Loaders | 1 | 8.00 | 65 | 0.37 |

## Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Architectural Coating | 3 | 8.00 | 2.00 | 0.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 13 | 60.00 | 60.00 | 0.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Concrete Pour | 28 | 50.00 | 4.00 | 4,365.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 13 | 30.00 | 10.00 | 3,293.00 | 20.00 | 20.00 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

***NOTE: Due to Project Design Features to use Tier 3 equipment the "Mitigated" CalEEMod scenario represents the Unmitigated Project Emissions. Offsite Emissions modeled outside of CalEEMod.***

## 3.2 Building Construction - 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 | 0.1474 | 1.7697 | 2.2601 | 3.4100e-003 | | 0.1145 | 0.1145 | | 0.1145 | 0.1145 | 0.0000 | 291.9786 | 291.9786 | 0.0552 | 0.0000 | 293.3577 |
| **Total** | **0.1474** | **1.7697** | **2.2601** | **3.4100e-003** | | **0.1145** | **0.1145** | | **0.1145** | **0.1145** | **0.0000** | **291.9786** | **291.9786** | **0.0552** | **0.0000** | **293.3577** |

### 3.3 Concrete Pour - 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 | 0.2212 | 2.2678 | 2.6793 | 3.9200e-003 | | 0.1553 | 0.1553 | | 0.1504 | 0.1504 | 0.0000 | 344.5924 | 344.5924 | 0.0661 | 0.0000 | 346.2454 |
| **Total** | **0.2212** | **2.2678** | **2.6793** | **3.9200e-003** | | **0.1553** | **0.1553** | | **0.1504** | **0.1504** | **0.0000** | **344.5924** | **344.5924** | **0.0661** | **0.0000** | **346.2454** |

### 3.4 Paving - 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 | 0.0347 | 0.7070 | 0.9461 | 1.4100e-003 | | 0.0366 | 0.0366 | | 0.0366 | 0.0366 | 0.0000 | 126.7469 | 126.7469 | 0.0401 | 0.0000 | 127.7495 |
| Paving | 0.0314 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0660** | **0.7070** | **0.9461** | **1.4100e-003** | | **0.0366** | **0.0366** | | **0.0366** | **0.0366** | **0.0000** | **126.7469** | **126.7469** | **0.0401** | **0.0000** | **127.7495** |

### 3.5 Architectural Coating - 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 | | | | | |
| Archit. Coating | 0.6403 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 3.5700e-003 | 0.0814 | 0.1099 | 1.8000e-004 | | 5.7100e-003 | 5.7100e-003 | | 5.7100e-003 | 5.7100e-003 | 0.0000 | 15.3195 | 15.3195 | 1.2900e-003 | 0.0000 | 15.3519 |
| **Total** | **0.6438** | **0.0814** | **0.1099** | **1.8000e-004** | | **5.7100e-003** | **5.7100e-003** | | **5.7100e-003** | **5.7100e-003** | **0.0000** | **15.3195** | **15.3195** | **1.2900e-003** | **0.0000** | **15.3519** |

## 4.0 Operational Detail - Mobile

- Operation Modeled Separately

**4. CalEEMod Output**
**b. Construction  One Building**

# VIP 215 - 1 Building Option - Construction Only - Unmitigated

**Riverside-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 | 2,219.85 | 1000sqft | 84.38 | 2,219,850.00 | 0 |
| Parking Lot | 58.08 | Acre | 61.78 | 2,529,964.80 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.4 | **Precipitation Freq (Days)** | 28 |
| **Climate Zone** | 10 | | | **Operational Year** | 2021 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 531.74 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions - Note "Mitigated" modeling is used as "Unmitigated" results due to PDF of Tier 3 equipment

Land Use - See Assumptions

Construction Phase - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Off-road Equipment - See Assumptions

Grading - See Assumptions

Trips and VMT - Modeled outside CalEEMod to include EMFAC2017

Architectural Coating - See Assumptions

Vehicle Trips - Operation Modeled separately

Energy Use -

Construction Off-road Equipment Mitigation - See Assumptions

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | ConstArea_Nonresidential_Exterior | 1,109,925.00 | 404,544.00 |
| tblArchitecturalCoating | ConstArea_Nonresidential_Interior | 3,329,775.00 | 7,080.00 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 3.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 5.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 6.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 4.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 10.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 11.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 11.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 1.00 |
| tblConstEquipMitigation | NumberOfEquipmentMitigated | 0.00 | 2.00 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |

| | | | |
|---|---|---|---|
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstEquipMitigation | Tier | No Change | Tier 3 |
| tblConstructionPhase | NumDays | 220.00 | 75.00 |
| tblConstructionPhase | NumDays | 3,100.00 | 45.00 |
| tblConstructionPhase | NumDays | 310.00 | 54.00 |
| tblConstructionPhase | NumDays | 220.00 | 44.00 |
| tblConstructionPhase | NumDays | 120.00 | 30.00 |
| tblConstructionPhase | NumDays | 3,100.00 | 262.00 |
| tblConstructionPhase | PhaseEndDate | 2/5/2046 | 4/15/2019 |
| tblConstructionPhase | PhaseEndDate | 7/12/2032 | 3/4/2019 |
| tblConstructionPhase | PhaseEndDate | 8/24/2020 | 3/15/2019 |
| tblConstructionPhase | PhaseEndDate | 4/3/2045 | 3/1/2019 |
| tblConstructionPhase | PhaseEndDate | 6/17/2019 | 2/11/2019 |
| tblConstructionPhase | PhaseEndDate | 5/30/2044 | 1/1/2020 |
| tblConstructionPhase | PhaseStartDate | 4/4/2045 | 1/1/2019 |
| tblConstructionPhase | PhaseStartDate | 8/25/2020 | 1/1/2019 |
| tblConstructionPhase | PhaseStartDate | 6/18/2019 | 1/1/2019 |
| tblConstructionPhase | PhaseStartDate | 5/31/2044 | 1/1/2019 |
| tblConstructionPhase | PhaseStartDate | 7/13/2032 | 1/1/2019 |
| tblGrading | AcresOfGrading | 567.00 | 315.00 |
| tblGrading | MaterialExported | 0.00 | 220,000.00 |

| | | | |
|---|---|---|---|
| tblLandUse | LotAcreage | 50.96 | 84.38 |
| tblLandUse | LotAcreage | 58.08 | 61.78 |
| tblOffRoadEquipment | HorsePower | 172.00 | 65.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 31.00 |
| tblOffRoadEquipment | HorsePower | 172.00 | 27.00 |
| tblOffRoadEquipment | LoadFactor | 0.42 | 0.31 |
| tblOffRoadEquipment | LoadFactor | 0.42 | 0.45 |
| tblOffRoadEquipment | LoadFactor | 0.42 | 0.43 |
| tblOffRoadEquipment | OffRoadEquipmentType | | Excavators |
| tblOffRoadEquipment | OffRoadEquipmentType | | Trenchers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Rollers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Other Construction Equipment |
| tblOffRoadEquipment | OffRoadEquipmentType | | Forklifts |
| tblOffRoadEquipment | OffRoadEquipmentType | | Off-Highway Trucks |
| tblOffRoadEquipment | OffRoadEquipmentType | | Scrapers |
| tblOffRoadEquipment | OffRoadEquipmentType | | Tractors/Loaders/Backhoes |
| tblOffRoadEquipment | OffRoadEquipmentType | | Skid Steer Loaders |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 8.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 3.00 | 1.00 |

| | | | |
|---|---|---|---|
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 4.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 10.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 0.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 3.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 3.00 |
| tblOffRoadEquipment | UsageHours | 6.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 18.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 20.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 20.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblOffRoadEquipment | UsageHours | 7.00 | 8.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 531.74 |
| tblTripsAndVMT | HaulingTripNumber | 27,500.00 | 0.00 |
| tblTripsAndVMT | VendorTripNumber | 778.00 | 0.00 |
| tblTripsAndVMT | VendorTripNumber | 778.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 28.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 33.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 1,995.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 33.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 399.00 | 0.00 |
| tblTripsAndVMT | WorkerTripNumber | 1,995.00 | 0.00 |

## 2.0 Emissions Summary

-Summary not used

### 2.1 Overall Construction

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Road Construction/Utilities | Site Preparation | 1/1/2019 | 2/11/2019 | 5 | 30 | |
| 2 | Excavation/Grading | Grading | 1/1/2019 | 3/15/2019 | 5 | 54 | |
| 3 | Concrete Pour | Building Construction | 1/1/2019 | 3/4/2019 | 5 | 45 | |
| 4 | Building Construction | Building Construction | 1/1/2019 | 1/1/2020 | 5 | 262 | |
| 5 | Paving | Paving | 1/1/2019 | 3/1/2019 | 5 | 44 | |
| 6 | Architectural Coating | Architectural Coating | 1/1/2019 | 4/15/2019 | 5 | 75 | |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 61.78**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 7,080; Non-Residential Outdoor: 404,544; Striped Parking Area:**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Architectural Coating | Air Compressors | 3 | 8.00 | 78 | 0.48 |
| Building Construction | Cranes | 1 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Excavation/Grading | Excavators | 0 | 8.00 | 158 | 0.38 |
| Concrete Pour | Cranes | 0 | 7.00 | 231 | 0.29 |
| Concrete Pour | Forklifts | 1 | 18.00 | 89 | 0.20 |
| Concrete Pour | Generator Sets | 8 | 20.00 | 84 | 0.74 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Rollers | 1 | 8.00 | 80 | 0.38 |
| Building Construction | Generator Sets | 3 | 8.00 | 84 | 0.74 |
| Excavation/Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Concrete Pour | Tractors/Loaders/Backhoes | 1 | 20.00 | 97 | 0.37 |
| Excavation/Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Excavation/Grading | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |

| | | | | | |
|---|---|---|---|---|---|
| Road Construction/Utilities | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Road Construction/Utilities | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Excavation/Grading | Scrapers | 10 | 8.00 | 367 | 0.48 |
| Concrete Pour | Welders | 0 | 8.00 | 46 | 0.45 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |
| Road Construction/Utilities | Excavators | 2 | 8.00 | 158 | 0.38 |
| Road Construction/Utilities | Trenchers | 2 | 8.00 | 78 | 0.50 |
| Road Construction/Utilities | Off-Highway Trucks | 1 | 4.00 | 402 | 0.38 |
| Excavation/Grading | Off-Highway Trucks | 1 | 4.00 | 402 | 0.38 |
| Concrete Pour | Off-Highway Trucks | 1 | 8.00 | 402 | 0.38 |
| Concrete Pour | Off-Highway Trucks | 1 | 24.00 | 402 | 0.38 |
| Concrete Pour | Rollers | 1 | 20.00 | 80 | 0.38 |
| Concrete Pour | Other Construction Equipment | 2 | 24.00 | 65 | 0.31 |
| Concrete Pour | Other Construction Equipment | 8 | 24.00 | 31 | 0.45 |
| Concrete Pour | Other Construction Equipment | 5 | 24.00 | 27 | 0.43 |
| Paving | Forklifts | 2 | 8.00 | 89 | 0.20 |
| Paving | Off-Highway Trucks | 1 | 4.00 | 402 | 0.38 |
| Paving | Scrapers | 1 | 8.00 | 367 | 0.48 |
| Paving | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Skid Steer Loaders | 1 | 8.00 | 65 | 0.37 |

## Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Building Construction | 13 | 0.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Road Construction/Utilities | 11 | 0.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Excavation/Grading | 13 | 0.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Concrete Pour | 28 | 0.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 13 | 0.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Architectural Coating | 3 | 0.00 | 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

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

***NOTE: Due to Project Design Features to use Tier 3 equipment the "Mitigated" CalEEMod scenario represents the Unmitigated Project Emissions. Offsite Emissions modeled outside of CalEEMod.***

## 3.2 Road Construction/Utilities - 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 | | | | | |
| Fugitive Dust | | | | | 0.1004 | 0.0000 | 0.1004 | 0.0552 | 0.0000 | 0.0552 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0215 | 0.4371 | 0.5557 | 8.8000e-004 | | 0.0217 | 0.0217 | | 0.0217 | 0.0217 | 0.0000 | 78.9622 | 78.9622 | 0.0250 | 0.0000 | 79.5868 |
| **Total** | **0.0215** | **0.4371** | **0.5557** | **8.8000e-004** | **0.1004** | **0.0217** | **0.1221** | **0.0552** | **0.0217** | **0.0769** | **0.0000** | **78.9622** | **78.9622** | **0.0250** | **0.0000** | **79.5868** |

## 3.3 Excavation/Grading - 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 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fugitive Dust | | | | | 0.1273 | 0.0000 | 0.1273 | 0.0406 | 0.0000 | 0.0406 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1151 | 2.2244 | 2.4929 | 4.6800e-003 | | 0.0844 | 0.0844 | | 0.0844 | 0.0844 | 0.0000 | 420.1955 | 420.1955 | 0.1330 | 0.0000 | 423.5191 |
| **Total** | **0.1151** | **2.2244** | **2.4929** | **4.6800e-003** | **0.1273** | **0.0844** | **0.2117** | **0.0406** | **0.0844** | **0.1250** | **0.0000** | **420.1955** | **420.1955** | **0.1330** | **0.0000** | **423.5191** |

## 3.4 Concrete Pour - 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 | 0.3572 | 3.4312 | 4.0572 | 5.8800e-003 | | 0.2383 | 0.2383 | | 0.2297 | 0.2297 | 0.0000 | 516.8886 | 516.8886 | 0.0992 | 0.0000 | 519.3680 |
| **Total** | **0.3572** | **3.4312** | **4.0572** | **5.8800e-003** | | **0.2383** | **0.2383** | | **0.2297** | **0.2297** | **0.0000** | **516.8886** | **516.8886** | **0.0992** | **0.0000** | **519.3680** |

## 3.5 Building Construction - 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 | 0.2653 | 3.1854 | 4.0681 | 6.1400e-003 | | 0.2062 | 0.2062 | | 0.2062 | 0.2062 | 0.0000 | 525.5615 | 525.5615 | 0.0993 | 0.0000 | 528.0439 |
| **Total** | **0.2653** | **3.1854** | **4.0681** | **6.1400e-003** | | **0.2062** | **0.2062** | | **0.2062** | **0.2062** | **0.0000** | **525.5615** | **525.5615** | **0.0993** | **0.0000** | **528.0439** |

## 3.5 Building Construction - 2020

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 9.5000e-004 | 0.0121 | 0.0155 | 2.0000e-005 | | 7.7000e-004 | 7.7000e-004 | | 7.7000e-004 | 7.7000e-004 | 0.0000 | 1.9943 | 1.9943 | 3.7000e-004 | 0.0000 | 2.0035 |
| **Total** | **9.5000e-004** | **0.0121** | **0.0155** | **2.0000e-005** | | **7.7000e-004** | **7.7000e-004** | | **7.7000e-004** | **7.7000e-004** | **0.0000** | **1.9943** | **1.9943** | **3.7000e-004** | **0.0000** | **2.0035** |

## 3.6 Paving - 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 | 0.0305 | 0.6214 | 0.8318 | 1.2400e-003 | | 0.0322 | 0.0322 | | 0.0322 | 0.0322 | 0.0000 | 111.3834 | 111.3834 | 0.0352 | 0.0000 | 112.2644 |
| Paving | 0.0809 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.1114** | **0.6214** | **0.8318** | **1.2400e-003** | | **0.0322** | **0.0322** | | **0.0322** | **0.0322** | **0.0000** | **111.3834** | **111.3834** | **0.0352** | **0.0000** | **112.2644** |

## 3.7 Architectural Coating - 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 | | | | | |
| Archit. Coating | 1.3057 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 8.9100e-003 | 0.2036 | 0.2749 | 4.5000e-004 | | 0.0143 | 0.0143 | | 0.0143 | 0.0143 | 0.0000 | 38.2988 | 38.2988 | 3.2300e-003 | 0.0000 | 38.3796 |
| **Total** | **1.3146** | **0.2036** | **0.2749** | **4.5000e-004** | | **0.0143** | **0.0143** | | **0.0143** | **0.0143** | **0.0000** | **38.2988** | **38.2988** | **3.2300e-003** | **0.0000** | **38.3796** |

## 4.0 Operational Detail - Mobile

Operational Modeled Separately

**4. CalEEMod Output**
**c. Operational**

**4. CalEEMod Output**

**c. Operational**

**1. VIP High Cube Warehouse - Operational**

VIP High Cube Warehouse - Operational - Riverside-South Coast County, Annual

# VIP High Cube Warehouse - Operational

**Riverside-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Refrigerated Warehouse-No Rail | 20.00 | 1000sqft | 0.46 | 20,000.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 2,199.85 | 1000sqft | 83.92 | 2,199,850.00 | 0 |
| Parking Lot | 38.54 | Acre | 38.54 | 1,678,802.40 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.4 | **Precipitation Freq (Days)** | 28 |
| **Climate Zone** | 10 | | | **Operational Year** | 2019 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 531.74 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - Construction modeled separately

Vehicle Trips - See Assumptions

Fleet Mix - See Assumptions

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Energy Mitigation - See Assumptions

Water Mitigation -

Waste Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblEnergyUse | NT24NG | 48.51 | 0.00 |
| tblEnergyUse | NT24NG | 0.03 | 0.00 |
| tblEnergyUse | T24NG | 3.25 | 0.00 |
| tblEnergyUse | T24NG | 2.00 | 0.00 |
| tblFleetMix | HHD | 0.07 | 0.22 |
| tblFleetMix | HHD | 0.07 | 0.22 |
| tblFleetMix | HHD | 0.07 | 0.22 |
| tblFleetMix | LDA | 0.53 | 0.38 |
| tblFleetMix | LDA | 0.53 | 0.38 |
| tblFleetMix | LDA | 0.53 | 0.38 |
| tblFleetMix | LDT1 | 0.04 | 0.03 |
| tblFleetMix | LDT1 | 0.04 | 0.03 |
| tblFleetMix | LDT1 | 0.04 | 0.03 |
| tblFleetMix | LDT2 | 0.18 | 0.13 |
| tblFleetMix | LDT2 | 0.18 | 0.13 |
| tblFleetMix | LDT2 | 0.18 | 0.13 |
| tblFleetMix | LHD1 | 0.02 | 0.08 |
| tblFleetMix | LHD1 | 0.02 | 0.08 |
| tblFleetMix | LHD1 | 0.02 | 0.08 |
| tblFleetMix | LHD2 | 5.5610e-003 | 0.02 |
| tblFleetMix | LHD2 | 5.5610e-003 | 0.02 |
| tblFleetMix | LHD2 | 5.5610e-003 | 0.02 |
| tblFleetMix | MCY | 4.6770e-003 | 3.2821e-003 |
| tblFleetMix | MCY | 4.6770e-003 | 3.2821e-003 |
| tblFleetMix | MCY | 4.6770e-003 | 3.2821e-003 |

| | | | |
|---|---|---|---|
| tblFleetMix | MDV | 0.13 | 0.08 |
| tblFleetMix | MDV | 0.13 | 0.08 |
| tblFleetMix | MDV | 0.13 | 0.08 |
| tblFleetMix | MH | 1.2110e-003 | 0.00 |
| tblFleetMix | MH | 1.2110e-003 | 0.00 |
| tblFleetMix | MH | 1.2110e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.06 |
| tblFleetMix | MHD | 0.02 | 0.06 |
| tblFleetMix | MHD | 0.02 | 0.06 |
| tblFleetMix | OBUS | 1.3450e-003 | 0.00 |
| tblFleetMix | OBUS | 1.3450e-003 | 0.00 |
| tblFleetMix | OBUS | 1.3450e-003 | 0.00 |
| tblFleetMix | SBUS | 9.7400e-004 | 0.00 |
| tblFleetMix | SBUS | 9.7400e-004 | 0.00 |
| tblFleetMix | SBUS | 9.7400e-004 | 0.00 |
| tblFleetMix | UBUS | 1.2470e-003 | 0.00 |
| tblFleetMix | UBUS | 1.2470e-003 | 0.00 |
| tblFleetMix | UBUS | 1.2470e-003 | 0.00 |
| tblLandUse | LotAcreage | 50.50 | 83.92 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 531.74 |
| tblSolidWaste | SolidWasteGenerationRate | 18.80 | 0.00 |
| tblSolidWaste | SolidWasteGenerationRate | 2,067.86 | 2,061.28 |
| tblVehicleTrips | CC_TL | 8.40 | 0.00 |
| tblVehicleTrips | CC_TL | 8.40 | 0.00 |
| tblVehicleTrips | CNW_TL | 6.90 | 40.00 |
| tblVehicleTrips | CNW_TL | 6.90 | 40.00 |
| tblVehicleTrips | CNW_TL | 6.90 | 40.00 |
| tblVehicleTrips | CNW_TTP | 41.00 | 45.72 |
| tblVehicleTrips | CNW_TTP | 41.00 | 45.72 |
| tblVehicleTrips | CW_TTP | 59.00 | 54.28 |

| | | | |
|---|---|---|---|
| tblVehicleTrips | CW_TTP | 59.00 | 54.28 |
| tblVehicleTrips | DV_TP | 5.00 | 0.00 |
| tblVehicleTrips | DV_TP | 5.00 | 0.00 |
| tblVehicleTrips | PB_TP | 3.00 | 0.00 |
| tblVehicleTrips | PB_TP | 3.00 | 0.00 |
| tblVehicleTrips | PR_TP | 92.00 | 100.00 |
| tblVehicleTrips | PR_TP | 92.00 | 100.00 |
| tblVehicleTrips | ST_TR | 1.68 | 1.40 |
| tblVehicleTrips | ST_TR | 1.68 | 1.40 |
| tblVehicleTrips | SU_TR | 1.68 | 1.40 |
| tblVehicleTrips | SU_TR | 1.68 | 1.40 |
| tblVehicleTrips | WD_TR | 1.68 | 1.40 |
| tblVehicleTrips | WD_TR | 1.68 | 1.40 |
| tblWater | AerobicPercent | 87.46 | 97.54 |
| tblWater | AerobicPercent | 87.46 | 97.54 |
| tblWater | AerobicPercent | 87.46 | 97.54 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 2.46 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 2.46 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 2.46 |
| tblWater | IndoorWaterUseRate | 4,625,000.00 | 0.00 |
| tblWater | IndoorWaterUseRate | 508,715,312.50 | 34,479,938.23 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |

## 2.0 Emissions Summary

### 2.1 Overall Construction

- Construction Modeled Separately

### 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 | 9.1850 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1,586.6236 | 1,586.6236 | 0.0865 | 0.0179 | 1,594.1220 |
| Mobile | 2.5467 | 55.8742 | 33.4558 | 0.2340 | 12.2974 | 0.4141 | 12.7115 | 3.3437 | 0.3948 | 3.7384 | 0.0000 | 21,989.8667 | 21,989.8667 | 0.8934 | 0.0000 | 22,012.2019 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 418.4212 | 0.0000 | 418.4212 | 24.7280 | 0.0000 | 1,036.6208 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 12.1991 | 108.2869 | 120.4860 | 0.3561 | 0.0278 | 137.6590 |
| **Total** | **11.7317** | **55.8745** | **33.4849** | **0.2340** | **12.2974** | **0.4142** | **12.7116** | **3.3437** | **0.3949** | **3.7385** | **430.6203** | **23,684.8332** | **24,115.4535** | **26.0642** | **0.0457** | **24,780.6635** |

## 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 | 9.1850 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1,571.7282 | 1,571.7282 | 0.0857 | 0.0177 | 1,579.1562 |
| Mobile | 2.5467 | 55.8742 | 33.4558 | 0.2340 | 12.2974 | 0.4141 | 12.7115 | 3.3437 | 0.3948 | 3.7384 | 0.0000 | 21,989.8667 | 21,989.8667 | 0.8934 | 0.0000 | 22,012.2019 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 209.2106 | 0.0000 | 209.2106 | 12.3640 | 0.0000 | 518.3104 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 11.5891 | 102.8726 | 114.4617 | 0.3383 | 0.0264 | 130.7760 |
| **Total** | **11.7317** | **55.8745** | **33.4849** | **0.2340** | **12.2974** | **0.4142** | **12.7116** | **3.3437** | **0.3949** | **3.7385** | **220.7997** | **23,664.5235** | **23,885.3232** | **13.6816** | **0.0441** | **24,240.5044** |

| | ROG | NOx | 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 | 48.73 | 0.09 | 0.95 | 47.51 | 3.42 | 2.18 |

## 3.0 Construction Detail

- Construction Modeled Separately

## 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 | 2.5467 | 55.8742 | 33.4558 | 0.2340 | 12.2974 | 0.4141 | 12.7115 | 3.3437 | 0.3948 | 3.7384 | 0.0000 | 21,989.8667 | 21,989.8667 | 0.8934 | 0.0000 | 22,012.2019 |
| Unmitigated | 2.5467 | 55.8742 | 33.4558 | 0.2340 | 12.2974 | 0.4141 | 12.7115 | 3.3437 | 0.3948 | 3.7384 | 0.0000 | 21,989.8667 | 21,989.8667 | 0.8934 | 0.0000 | 22,012.2019 |

### 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 | | |
| Refrigerated Warehouse-No Rail | 28.08 | 28.08 | 28.08 | 279,021 | 279,021 |
| Unrefrigerated Warehouse-No Rail | 3,088.59 | 3,088.59 | 3088.59 | 30,690,222 | 30,690,222 |
| Total | 3,116.67 | 3,116.67 | 3,116.67 | 30,969,243 | 30,969,243 |

### 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 | | 40.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Refrigerated Warehouse-No Rail | 16.60 | 0.00 | 40.00 | 54.28 | 0.00 | 45.72 | 100 | 0 | 0 |
| Unrefrigerated Warehouse-No Rail | 16.60 | 0.00 | 40.00 | 54.28 | 0.00 | 45.72 | 100 | 0 | 0 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parking Lot | 0.381509 | 0.027262 | 0.130740 | 0.077542 | 0.080511 | 0.024701 | 0.055723 | 0.218730 | 0.000000 | 0.000000 | 0.003282 | 0.000000 | 0.000000 |
| Refrigerated Warehouse-No Rail | 0.381509 | 0.027262 | 0.130740 | 0.077542 | 0.080511 | 0.024701 | 0.055723 | 0.218730 | 0.000000 | 0.000000 | 0.003282 | 0.000000 | 0.000000 |
| Unrefrigerated Warehouse-No Rail | 0.381509 | 0.027262 | 0.130740 | 0.077542 | 0.080511 | 0.024701 | 0.055723 | 0.218730 | 0.000000 | 0.000000 | 0.003282 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 1,571.7282 | 1,571.7282 | 0.0857 | 0.0177 | 1,579.1562 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 1,586.6236 | 1,586.6236 | 0.0865 | 0.0179 | 1,594.1220 |
| 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 |
| Refrigerated 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 |
| 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 |
| Refrigerated 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 |
| 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 | 587581 | 141.7205 | 7.7300e-003 | 1.6000e-003 | 142.3903 |
| Refrigerated Warehouse-No Rail | 799000 | 192.7134 | 0.0105 | 2.1700e-003 | 193.6241 |
| Unrefrigerated Warehouse-No Rail | 5.19165e+006 | 1,252.1898 | 0.0683 | 0.0141 | 1,258.1076 |
| **Total** | | **1,586.6236** | **0.0865** | **0.0179** | **1,594.1220** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Parking Lot | 580914 | 140.1126 | 7.6400e-003 | 1.5800e-003 | 140.7747 |
| Refrigerated Warehouse-No Rail | 791273 | 190.8498 | 0.0104 | 2.1500e-003 | 191.7517 |
| Unrefrigerated Warehouse-No Rail | 5.14428e+006 | 1,240.7659 | 0.0677 | 0.0140 | 1,246.6298 |
| **Total** | | **1,571.7282** | **0.0857** | **0.0177** | **1,579.1562** |

# 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 | 9.1850 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |
| Unmitigated | 9.1850 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |

## 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 | 1.0522 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 8.1300 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.7600e-003 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |
| **Total** | **9.1850** | **2.7000e-004** | **0.0291** | **0.0000** | | **1.0000e-004** | **1.0000e-004** | | **1.0000e-004** | **1.0000e-004** | **0.0000** | **0.0561** | **0.0561** | **1.5000e-004** | **0.0000** | **0.0598** |

### 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 | 1.0522 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 8.1300 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.7600e-003 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | **9.1850** | **2.7000e-004** | **0.0291** | **0.0000** | | **1.0000e-004** | **1.0000e-004** | | **1.0000e-004** | **1.0000e-004** | **0.0000** | **0.0561** | **0.0561** | **1.5000e-004** | **0.0000** | **0.0598** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 114.4617 | 0.3383 | 0.0264 | 130.7760 |
| Unmitigated | 120.4860 | 0.3561 | 0.0278 | 137.6590 |

## 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 |
| Refrigerated Warehouse-No Rail | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 34.4799 / 0 | 120.4860 | 0.3561 | 0.0278 | 137.6590 |
| **Total** | | **120.4860** | **0.3561** | **0.0278** | **137.6590** |

**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 |
| Refrigerated Warehouse-No Rail | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 32.7559 / 0 | 114.4617 | 0.3383 | 0.0264 | 130.7760 |
| **Total** | | **114.4617** | **0.3383** | **0.0264** | **130.7760** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 209.2106 | 12.3640 | 0.0000 | 518.3104 |
| Unmitigated | 418.4212 | 24.7280 | 0.0000 | 1,036.6208 |

### 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 |
| Refrigerated Warehouse-No Rail | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 2061.28 | 418.4212 | 24.7280 | 0.0000 | 1,036.6208 |
| **Total** | | **418.4212** | **24.7280** | **0.0000** | **1,036.6208** |

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Refrigerated Warehouse-No Rail | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1030.64 | 209.2106 | 12.3640 | 0.0000 | 518.3104 |
| **Total** | | **209.2106** | **12.3640** | **0.0000** | **518.3104** |

## 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

**4. CalEEMod Output**
**c. Operational**
**2. VIP2015 - IE - Operational Only**

VIP2015 - IE - Operational Only 2019 - Riverside-South Coast County, Annual

# VIP2015 - IE - Operational Only 2019

**Riverside-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 | 2,219.85 | 1000sqft | 50.96 | 2,219,850.00 | 0 |
| Parking Lot | 38.54 | Acre | 38.54 | 1,678,802.40 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.4 | **Precipitation Freq (Days)** | 28 |
| **Climate Zone** | 10 | | | **Operational Year** | 2019 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 531.74 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - Construction modeled separately

Energy Use - See Assumptions

Water And Wastewater - See Assumptions

Solid Waste - See Assumptions

Energy Mitigation - See Assumptions

Water Mitigation - See Assumptions

Waste Mitigation -

Vehicle Trips - See Assumptions

Fleet Mix - See assumptions

Area Coating -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblAreaMitigation | UseLowVOCPaintNonresidentialExteriorValue | 100 | 0 |
| tblAreaMitigation | UseLowVOCPaintNonresidentialInteriorValue | 100 | 0 |
| tblAreaMitigation | UseLowVOCPaintParkingValue | 0 | 100 |
| tblAreaMitigation | UseLowVOCPaintResidentialExteriorValue | 50 | 0 |
| tblAreaMitigation | UseLowVOCPaintResidentialInteriorValue | 50 | 0 |
| tblConstructionPhase | NumDays | 110.00 | 1.00 |
| tblEnergyUse | LightingElect | 1.17 | 1.30 |
| tblEnergyUse | NT24E | 0.82 | 1.58 |
| tblEnergyUse | NT24NG | 0.03 | 0.00 |
| tblEnergyUse | T24E | 0.37 | 0.71 |
| tblEnergyUse | T24NG | 2.00 | 0.00 |
| tblFleetMix | HHD | 0.07 | 0.04 |
| tblFleetMix | HHD | 0.07 | 0.04 |
| tblFleetMix | LDA | 0.53 | 0.63 |
| tblFleetMix | LDA | 0.53 | 0.63 |
| tblFleetMix | LDT1 | 0.04 | 0.04 |
| tblFleetMix | LDT1 | 0.04 | 0.04 |
| tblFleetMix | LDT2 | 0.18 | 0.21 |
| tblFleetMix | LDT2 | 0.18 | 0.21 |
| tblFleetMix | LHD1 | 0.02 | 0.02 |
| tblFleetMix | LHD1 | 0.02 | 0.02 |
| tblFleetMix | LHD2 | 5.5610e-003 | 5.5715e-003 |
| tblFleetMix | LHD2 | 5.5610e-003 | 5.5715e-003 |
| tblFleetMix | MCY | 4.6770e-003 | 5.3936e-003 |
| tblFleetMix | MCY | 4.6770e-003 | 5.3936e-003 |

| | | | |
|---|---|---|---|
| tblFleetMix | MDV | 0.13 | 0.03 |
| tblFleetMix | MDV | 0.13 | 0.03 |
| tblFleetMix | MH | 1.2110e-003 | 0.00 |
| tblFleetMix | MH | 1.2110e-003 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.01 |
| tblFleetMix | MHD | 0.02 | 0.01 |
| tblFleetMix | OBUS | 1.3450e-003 | 0.00 |
| tblFleetMix | OBUS | 1.3450e-003 | 0.00 |
| tblFleetMix | SBUS | 9.7400e-004 | 0.00 |
| tblFleetMix | SBUS | 9.7400e-004 | 0.00 |
| tblFleetMix | UBUS | 1.2470e-003 | 0.00 |
| tblFleetMix | UBUS | 1.2470e-003 | 0.00 |
| tblProjectCharacteristics | CO2IntensityFactor | 702.44 | 531.74 |
| tblSolidWaste | SolidWasteGenerationRate | 2,086.66 | 4,181.91 |
| tblVehicleTrips | CC_TL | 8.40 | 0.00 |
| tblVehicleTrips | CC_TL | 8.40 | 0.00 |
| tblVehicleTrips | CNW_TL | 6.90 | 40.00 |
| tblVehicleTrips | CNW_TL | 6.90 | 40.00 |
| tblVehicleTrips | CNW_TTP | 41.00 | 11.00 |
| tblVehicleTrips | CW_TTP | 59.00 | 89.00 |
| 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 | 6.44 |
| tblVehicleTrips | SU_TR | 1.68 | 6.44 |
| tblVehicleTrips | WD_TR | 1.68 | 6.44 |
| tblWater | AerobicPercent | 87.46 | 97.54 |
| tblWater | AerobicPercent | 87.46 | 97.54 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 2.46 |
| tblWater | AnaerobicandFacultativeLagoonsPercent | 2.21 | 2.46 |

| | | | |
|---|---|---|---|
| tblWater | IndoorWaterUseRate | 513,340,312.50 | 34,479,938.23 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |
| tblWater | SepticTankPercent | 10.33 | 0.00 |

## 2.0 Emissions Summary

### 2.1 Overall Construction

- Construction Modeled Separately

### 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 | 9.1850 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 2,063.8522 | 2,063.8522 | 0.1126 | 0.0233 | 2,073.6060 |
| Mobile | 6.6075 | 45.7817 | 111.8629 | 0.4238 | 37.6851 | 0.4144 | 38.0995 | 10.0504 | 0.3898 | 10.4402 | 0.0000 | 38,832.6195 | 38,832.6195 | 1.3711 | 0.0000 | 38,866.8963 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 848.8899 | 0.0000 | 848.8899 | 50.1680 | 0.0000 | 2,103.0889 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 12.1991 | 108.2869 | 120.4860 | 0.3561 | 0.0278 | 137.6590 |
| **Total** | **15.7925** | **45.7819** | **111.8920** | **0.4238** | **37.6851** | **0.4145** | **38.0996** | **10.0504** | **0.3899** | **10.4403** | **861.0890** | **41,004.8147** | **41,865.9037** | **52.0079** | **0.0510** | **43,181.3100** |

**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 | 9.1850 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |
| Energy | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 2,036.6445 | 2,036.6445 | 0.1111 | 0.0230 | 2,046.2697 |
| Mobile | 6.6075 | 45.7817 | 111.8629 | 0.4238 | 37.6851 | 0.4144 | 38.0995 | 10.0504 | 0.3898 | 10.4402 | 0.0000 | 38,832.6195 | 38,832.6195 | 1.3711 | 0.0000 | 38,866.8963 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 424.4450 | 0.0000 | 424.4450 | 25.0840 | 0.0000 | 1,051.5444 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 11.5891 | 102.8726 | 114.4617 | 0.3383 | 0.0264 | 130.7760 |
| **Total** | **15.7925** | **45.7819** | **111.8920** | **0.4238** | **37.6851** | **0.4145** | **38.0996** | **10.0504** | **0.3899** | **10.4403** | **436.0341** | **40,972.1926** | **41,408.2267** | **26.9046** | **0.0493** | **42,095.5463** |

| | ROG | NOx | 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** | **49.36** | **0.08** | **1.09** | **48.27** | **3.33** | **2.51** |

## 3.0 Construction Detail

-Construction Modeled Separately

## 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 | 6.6075 | 45.7817 | 111.8629 | 0.4238 | 37.6851 | 0.4144 | 38.0995 | 10.0504 | 0.3898 | 10.4402 | 0.0000 | 38,832.6195 | 38,832.6195 | 1.3711 | 0.0000 | 38,866.8963 |
| Unmitigated | 6.6075 | 45.7817 | 111.8629 | 0.4238 | 37.6851 | 0.4144 | 38.0995 | 10.0504 | 0.3898 | 10.4402 | 0.0000 | 38,832.6195 | 38,832.6195 | 1.3711 | 0.0000 | 38,866.8963 |

### 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 | 14,289.62 | 14,289.62 | 14289.62 | 99,732,048 | 99,732,048 |
| Total | 14,289.62 | 14,289.62 | 14,289.62 | 99,732,048 | 99,732,048 |

### 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 | 0.00 | 40.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No Rail | 16.60 | 0.00 | 40.00 | 89.00 | 0.00 | 11.00 | 100 | 0 | 0 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parking Lot | 0.626943 | 0.044800 | 0.214848 | 0.034582 | 0.018160 | 0.005571 | 0.010091 | 0.039611 | 0.000000 | 0.000000 | 0.005394 | 0.000000 | 0.000000 |
| Unrefrigerated Warehouse-No Rail | 0.626943 | 0.044800 | 0.214848 | 0.034582 | 0.018160 | 0.005571 | 0.010091 | 0.039611 | 0.000000 | 0.000000 | 0.005394 | 0.000000 | 0.000000 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 2,036.6445 | 2,036.6445 | 0.1111 | 0.0230 | 2,046.2697 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 2,063.8522 | 2,063.8522 | 0.1126 | 0.0233 | 2,073.6060 |
| 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 | 587581 | 141.7205 | 7.7300e-003 | 1.6000e-003 | 142.3903 |
| Unrefrigerated Warehouse-No Rail | 7.96926e+006 | 1,922.1317 | 0.1048 | 0.0217 | 1,931.2157 |
| **Total** | | **2,063.8523** | **0.1126** | **0.0233** | **2,073.6060** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Parking Lot | 570581 | 137.6202 | 7.5100e-003 | 1.5500e-003 | 138.2706 |
| Unrefrigerated Warehouse-No Rail | 7.87346e+006 | 1,899.0243 | 0.1036 | 0.0214 | 1,907.9991 |
| **Total** | | **2,036.6445** | **0.1111** | **0.0230** | **2,046.2697** |

## 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 | 9.1850 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |
| Unmitigated | 9.1850 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |

## 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 | 1.0522 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 8.1300 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.7600e-003 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |
| **Total** | **9.1850** | **2.7000e-004** | **0.0291** | **0.0000** | | **1.0000e-004** | **1.0000e-004** | | **1.0000e-004** | **1.0000e-004** | **0.0000** | **0.0561** | **0.0561** | **1.5000e-004** | **0.0000** | **0.0598** |

### 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 | 1.0522 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 8.1300 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Landscaping | 2.7600e-003 | 2.7000e-004 | 0.0291 | 0.0000 | | 1.0000e-004 | 1.0000e-004 | | 1.0000e-004 | 1.0000e-004 | 0.0000 | 0.0561 | 0.0561 | 1.5000e-004 | 0.0000 | 0.0598 |
| **Total** | **9.1850** | **2.7000e-004** | **0.0291** | **0.0000** | | **1.0000e-004** | **1.0000e-004** | | **1.0000e-004** | **1.0000e-004** | **0.0000** | **0.0561** | **0.0561** | **1.5000e-004** | **0.0000** | **0.0598** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

Apply Water Conservation Strategy

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 114.4617 | 0.3383 | 0.0264 | 130.7760 |
| Unmitigated | 120.4860 | 0.3561 | 0.0278 | 137.6590 |

## 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 | 34.4799 / 0 | 120.4860 | 0.3561 | 0.0278 | 137.6590 |
| **Total** | | **120.4860** | **0.3561** | **0.0278** | **137.6590** |

**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 | 32.7559 / 0 | 114.4617 | 0.3383 | 0.0264 | 130.7760 |
| **Total** | | **114.4617** | **0.3383** | **0.0264** | **130.7760** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 424.4450 | 25.0840 | 0.0000 | 1,051.5444 |
| Unmitigated | 848.8899 | 50.1680 | 0.0000 | 2,103.0889 |

### 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 | 4181.91 | 848.8899 | 50.1680 | 0.0000 | 2,103.0889 |
| **Total** | | **848.8899** | **50.1680** | **0.0000** | **2,103.0889** |

**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 | 2090.95 | 424.4450 | 25.0840 | 0.0000 | 1,051.5444 |
| **Total** | | **424.4450** | **25.0840** | **0.0000** | **1,051.5444** |

## 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