



## MEMORANDUM

To: Michael Poland, Contract Planning Manager

From: Ace Malisos  
Kimley-Horn and Associates, Inc.

Date: January 24, 2020

Subject: Supplemental GHG Analysis for the Bridge Point Upland Project

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### Introduction

The Greenhouse Gas (GHG) analysis within the *Bridge Point Upland Initial Study/Mitigated Negative Declaration* (IS/MND) (December 3, 2019) and associated GHG Emissions Assessment was conducted using modeling and methodology in accordance with standard industry practice and recommendations set forth by the South Coast Air Quality Management District (SCAQMD). The analysis included the use of the California Emissions Estimator Model (CalEEMod) and GHG emissions thresholds consistent with approaches used by various other Lead Agencies in the preparation of California Environmental Quality Act (CEQA) compliance documents. However, in response to comments on the GHG analysis, refinements and additional sustainability commitments in the form of new Project Design Features have been made to the Project GHG emissions and are discussed in this memorandum.

It should be noted that the model refinements are provided for informational purposes only to demonstrate that the Project's emissions would be below both the 10,000 metric tons of carbon dioxide equivalent per year (MTCO<sub>2</sub>e/year) industrial threshold and the 3,000 MTCO<sub>2</sub>e/year non-industrial proposed screening threshold, that has not been adopted by SCAQMD.<sup>1, 2</sup>

### New Project Design Features

As noted above, a number of new sustainability commitments have been added as part of the Project, which will be enforceable through the following new Project Design Features:

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<sup>1</sup> Although the SCAQMD has not formally adopted a GHG significance threshold that applies to most land use development projects, the *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15* indicate that the 3,000 MTCO<sub>2</sub>e/year threshold is for mixed-use projects.

<sup>2</sup> The California Attorney General indicates that the 10,000 metric ton threshold is appropriate for warehouse facilities (Brief of Amici Curiae the Attorney General and The California Air Resources Board in Support of Plaintiffs and Respondents Albert Thomas Paulek, et al. and Plaintiffs and Appellants Laborers International Union of North America, Local 1184, et al.)

- PDF-GHG-1: The Project shall stall 0.75 MW of rooftop solar; this equates to approximately 55,000 square feet of roof space however the total square footage may vary provided that 0.75 MW of power is achieved.
- PDF-GHG-2: The Project shall provide electric vehicle (EV) charging stations to service 30 parking spaces.
- PDF-GHG-3: The Project shall provide the following EV-ready spaces, i.e. install, at a minimum, conduits for future plug-in of EV chargers; providing EV-ready spaces allows installation of the latest technology chargers at the time that electric delivery vans and trucks become operational, rather than installing charging stations immediately that become obsolete at the time that electric vans and trucks become used:
- 50% of auto stalls, including 100% of ADA stalls
  - 100% of van parking stalls
  - 100% of trailer parking stalls
  - 100% of dock doors
  - 100% of van positions at van loading areas at north and south sides of the building
- PDF-GHG-4: The Project shall include 1,000 trees throughout the parking lot and landscaped areas around the Project site.
- PDF-GHG-5: The Project shall use all electric powered forklifts.
- PDF-GHG-6: Electric landscaping equipment, such as lawn mowers and leaf blowers, shall be used on-site.

As indicated above, the Project has included substantial efforts to electrify onsite vehicles (i.e., forklifts); promote the conversion to electric vehicles (EVs); and to utilize roof space for solar photovoltaics (PV). The inclusion of EV chargers servicing 30 parking spaces far exceeds the current California Building Code requirements of only 6 percent of the total parking spaces to be EV-capable spaces, i.e. there is no requirement in the California Building Code that chargers be installed, only that EV infrastructure be installed for 6% of spaces. As a result of the new solar commitment, the project building is projected to have **net-zero electricity consumption**.

The following changes have been made to Mitigation Measure AQ-3 in the IS/MND to reflect the new Project Design Features:

- AQ-3: Prior to the issuance of a certificate of occupancy, the Project Applicant shall demonstrate to the satisfaction of the City of Upland Planning Division that the following measures would be implemented during Project operations.
  - ~~The proposed warehouse shall be constructed with the appropriate infrastructure to facilitate sufficient electric charging for trucks to plug in, in anticipation of future technology that allows trucks to operate partially on electricity.~~ (now replaced with PDF-GHG-2 and PDF-GHG-3)
  - ~~At least 6 percent of all vehicle parking spaces (including for trucks) shall be designed to accommodate future electric vehicle charging stations.~~ (now replaced with PDF-GHG-2 and PDF-GHG-3) Further, electrical hookups should be provided at the onsite truck stop for truckers to plug in any onboard auxiliary equipment. At a minimum, electrical panels should be appropriately sized to allow for future expanded use.
  - Legible, durable, weatherproof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum, each sign shall include (1) instructions for truck drivers to shut off engines when not in use; (2) instructions for drivers of diesel trucks to restrict idling to no more than 5 minutes; and (3) telephone numbers of the building facilities manager and CARB to report violations.
  - All service equipment (e.g., forklifts, yard trucks, hostlers, etc.) used within the site shall be electric ~~or powered by compressed natural gas.~~
  - To promote alternative fuels and help support “clean” truck fleets, the developer/successor-in-interest shall provide building occupants with information related to the SCAQMD’s Carl Moyer Program, or other such programs that promote truck retrofits or “clean” vehicles and information including, but not limited to, the health effect of diesel particulates, benefits of reduced idling time, CARB regulations, and importance of not parking in residential areas. Tenants shall be notified about the availability of (1) alternatively fueled cargo handling equipment; (2) grant programs for diesel- fueled vehicle engine retrofit and/or replacement; (3) designated truck parking locations in the project vicinity; (4) access to alternative fueling stations proximate to the site that supply compressed natural gas; and (5) the US Environmental Protection Agency’s SmartWay program.

#### **Refined GHG Emissions Incorporating New Project Design Features**

In response to comments on the GHG analysis included in the IS/MND, the following updates were made to the GHG analysis:

- Updates to the existing emissions inventory;
- A more accurate utility emission factor;
- Incorporation of the GHG reduction from electric vehicle chargers;
- Incorporation of the GHG reduction from solar panels;

- Incorporation of electric forklifts instead of compressed natural gas forklifts; and
- Incorporation of the increased carbon sequestration based on the Project's commitment to planting of trees.

**Table 1** shows that with incorporation of the Project Design Features and updates to the emissions inventory, Project GHG emissions would be below 3,000 MTCO<sub>2</sub>e/year.

**Table 1: Project GHG Emissions Update**

| Emissions Source                     | Greenhouse Gas Emissions<br>(MT CO <sub>2</sub> e per Year) |
|--------------------------------------|-------------------------------------------------------------|
|                                      | Updated Inventory                                           |
| Construction Amortized Over 30 Years | 34                                                          |
| Area Sources                         | 0.03                                                        |
| Energy                               | 319                                                         |
| Mobile                               | 5,114                                                       |
| Off-Road (forklifts)                 | 111                                                         |
| Waste                                | 66                                                          |
| Water and Wastewater                 | 224                                                         |
| <b>Project Design Features</b>       |                                                             |
| Vegetation Amortized over 30 Years   | -24                                                         |
| Solar PV                             | -289                                                        |
| EV Chargers                          | -214                                                        |
| <b>Sub-Total</b>                     | <b>5,340</b>                                                |
| Existing Emissions                   | 2,437                                                       |
| <b>Project's Net Increase</b>        | <b>2,904</b>                                                |
| <b>Updated Emissions Below 3,000</b> |                                                             |

## Conclusion

Although the MND did not identify a significant GHG impact, the Project has committed to further reducing GHG emissions by installing solar panels (anticipated to achieve net zero electricity), installing EV chargers, planting trees and other measures. The Project's GHG emissions would continue to be below the significance threshold identified in the MND. The analysis above also demonstrates that the Project's GHG emissions would be below 3,000 metric tons of CO<sub>2</sub>e per year.

## Appendix A

### Modeling Data

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## Bridge Point Upland - San Bernardino-South Coast County, Annual

## Bridge Point Upland

### San Bernardino-South Coast County, Annual

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses                        | Size   | Metric   | Lot Acreage | Floor Surface Area | Population |
|----------------------------------|--------|----------|-------------|--------------------|------------|
| Unrefrigerated Warehouse-No Rail | 266.82 | 1000sqft | 6.13        | 266,825.00         | 0          |
| Parking Lot                      | 861.05 | 1000sqft | 19.77       | 1,306,800.00       | 0          |
| Regional Shopping Center         | 10.00  | 1000sqft | 0.23        | 10,000.00          | 0          |

### 1.2 Other Project Characteristics

|                                 |                            |                                 |       |                                  |       |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                      | <b>Wind Speed (m/s)</b>         | 2.2   | <b>Precipitation Freq (Days)</b> | 32    |
| <b>Climate Zone</b>             | 10                         |                                 |       | <b>Operational Year</b>          | 2020  |
| <b>Utility Company</b>          | Southern California Edison |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 522                        | <b>CH4 Intensity (lb/MW hr)</b> | 0.029 | <b>N2O Intensity (lb/MW hr)</b>  | 0.006 |

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

Project Characteristics - Updated per SCE corporate responsibility report and RPS targets

Land Use - 266.8 kSF buildings, 6.53 acres (284 KSF) landscaping, 1,306,800 KSF parking

Construction Phase - anticipated construction schedule

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment -

Off-road Equipment - anticipated construction equipment

Off-road Equipment - anticipated construction equipment

Off-road Equipment -

Trips and VMT - Export site is less 1 mile from project site

Demolition -

Grading - Anticipated export

Architectural Coating - low VOC paint mitigation

Vehicle Trips - trip rates from Translutions trip generation report using High Cube Warehouse

Construction Off-road Equipment Mitigation - mitigation per Rule 403

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Operational Off-Road Equipment - equipment would be electric

Fleet Mix - Fleet mix from Translutions Traffic Study

Energy Use -

Sequestration -

| Table Name             | Column Name                     | Default Value | New Value |
|------------------------|---------------------------------|---------------|-----------|
| tblConstDustMitigation | CleanPavedRoadPercentReduction  | 0             | 6         |
| tblConstDustMitigation | WaterUnpavedRoadMoistureContent | 0             | 12        |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed    | 0             | 15        |
| tblConstructionPhase   | NumDays                         | 30.00         | 0.00      |
| tblConstructionPhase   | NumDays                         | 20.00         | 2.00      |
| tblConstructionPhase   | NumDays                         | 45.00         | 35.00     |
| tblConstructionPhase   | NumDays                         | 440.00        | 100.00    |
| tblConstructionPhase   | NumDays                         | 35.00         | 66.00     |
| tblConstructionPhase   | NumDays                         | 35.00         | 14.00     |
| tblFleetMix            | HHD                             | 0.06          | 0.02      |
| tblFleetMix            | LDA                             | 0.55          | 0.23      |
| tblFleetMix            | LHD1                            | 0.02          | 0.38      |
| tblFleetMix            | MH                              | 1.0820e-003   | 0.00      |
| tblFleetMix            | OBUS                            | 1.3370e-003   | 0.00      |

|                                |                            |             |              |
|--------------------------------|----------------------------|-------------|--------------|
| tblFleetMix                    | SBUS                       | 8.1700e-004 | 0.00         |
| tblFleetMix                    | UBUS                       | 1.6570e-003 | 0.00         |
| tblGrading                     | MaterialExported           | 0.00        | 431.00       |
| tblLandUse                     | LandUseSquareFeet          | 266,820.00  | 266,825.00   |
| tblLandUse                     | LandUseSquareFeet          | 861,050.00  | 1,306,800.00 |
| tblOffRoadEquipment            | OffRoadEquipmentUnitAmount | 1.00        | 2.00         |
| tblOffRoadEquipment            | OffRoadEquipmentUnitAmount | 2.00        | 4.00         |
| tblOffRoadEquipment            | OffRoadEquipmentUnitAmount | 1.00        | 2.00         |
| tblOffRoadEquipment            | OffRoadEquipmentUnitAmount | 2.00        | 4.00         |
| tblOperationalOffRoadEquipment | OperDaysPerYear            | 260.00      | 0.00         |
| tblOperationalOffRoadEquipment | OperHoursPerDay            | 8.00        | 0.00         |
| tblProjectCharacteristics      | CO2IntensityFactor         | 702.44      | 522          |
| tblSequestration               | NumberOfNewTrees           | 0.00        | 1,000.00     |
| tblTripsAndVMT                 | HaulingTripLength          | 20.00       | 10.00        |
| tblTripsAndVMT                 | WorkerTripNumber           | 33.00       | 20.00        |
| tblVehicleTrips                | ST_TR                      | 49.97       | 36.50        |
| tblVehicleTrips                | ST_TR                      | 1.68        | 7.94         |
| tblVehicleTrips                | SU_TR                      | 25.24       | 36.50        |
| tblVehicleTrips                | SU_TR                      | 1.68        | 7.94         |
| tblVehicleTrips                | WD_TR                      | 42.70       | 36.50        |
| tblVehicleTrips                | WD_TR                      | 1.68        | 7.94         |

## 2.0 Emissions Summary

### 2.1 Overall Construction

#### Unmitigated Construction

|  | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|
|--|-----|-----|----|-----|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-----|-----|------|

| Year    | tons/yr |        |        |        |        |        |        |        |        |        | MT/yr  |            |            |        |        |            |
|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------|------------|--------|--------|------------|
| 2020    | 1.9843  | 4.2367 | 3.8210 | 0.0111 | 0.7158 | 0.1415 | 0.8573 | 0.2124 | 0.1321 | 0.3446 | 0.0000 | 1,008.8594 | 1,008.8594 | 0.1233 | 0.0000 | 1,011.9423 |
| Maximum | 1.9843  | 4.2367 | 3.8210 | 0.0111 | 0.7158 | 0.1415 | 0.8573 | 0.2124 | 0.1321 | 0.3446 | 0.0000 | 1,008.8594 | 1,008.8594 | 0.1233 | 0.0000 | 1,011.9423 |

**Mitigated Construction**

|         | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|---------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Year    | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| 2020    | 1.9843  | 4.2367 | 3.8210 | 0.0111 | 0.5668        | 0.1415       | 0.7083     | 0.1617         | 0.1321        | 0.2938      | 0.0000   | 1,008.8590 | 1,008.8590 | 0.1233 | 0.0000 | 1,011.9419 |
| Maximum | 1.9843  | 4.2367 | 3.8210 | 0.0111 | 0.5668        | 0.1415       | 0.7083     | 0.1617         | 0.1321        | 0.2938      | 0.0000   | 1,008.8590 | 1,008.8590 | 0.1233 | 0.0000 | 1,011.9419 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 20.82         | 0.00         | 17.38      | 23.90          | 0.00          | 14.74       | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

| Quarter | Start Date | End Date  | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|----------------------------------------------|--------------------------------------------|
| 1       | 2-1-2020   | 4-30-2020 | 2.4222                                       | 2.4222                                     |
| 2       | 5-1-2020   | 7-31-2020 | 2.8999                                       | 2.8999                                     |
| 3       | 8-1-2020   | 9-30-2020 | 0.9028                                       | 0.9028                                     |
|         |            | Highest   | 2.8999                                       | 2.8999                                     |

**2.2 Overall Operational**  
**Unmitigated Operational**

|          | ROG         | NOx         | CO      | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4         | N2O         | CO2e       |
|----------|-------------|-------------|---------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|------------|------------|-------------|-------------|------------|
| Category | tons/yr     |             |         |             |               |              |             |                |               |             | MT/yr    |            |            |             |             |            |
| Area     | 1.2326      | 1.3000e-004 | 0.0146  | 0.0000      |               | 5.0000e-005  | 5.0000e-005 |                | 5.0000e-005   | 5.0000e-005 | 0.0000   | 0.0282     | 0.0282     | 8.0000e-005 | 0.0000      | 0.0301     |
| Energy   | 3.0400e-003 | 0.0276      | 0.0232  | 1.7000e-004 |               | 2.1000e-003  | 2.1000e-003 |                | 2.1000e-003   | 2.1000e-003 | 0.0000   | 317.3894   | 317.3894   | 0.0165      | 3.8500e-003 | 318.9513   |
| Mobile   | 1.3769      | 13.5321     | 16.0509 | 0.0556      | 3.8731        | 0.0882       | 3.9613      | 1.0572         | 0.0837        | 1.1409      | 0.0000   | 5,109.0598 | 5,109.0598 | 0.1948      | 0.0000      | 5,113.9303 |
| Waste    |             |             |         |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 53.0436  | 0.0000     | 53.0436    | 3.1348      | 0.0000      | 131.4132   |
| Water    |             |             |         |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 19.8102  | 193.7087   | 213.5189   | 2.0455      | 0.0503      | 279.6360   |
| Total    | 2.6126      | 13.5599     | 16.0888 | 0.0557      | 3.8731        | 0.0903       | 3.9634      | 1.0572         | 0.0859        | 1.1431      | 72.8538  | 5,620.1862 | 5,693.0400 | 5.3917      | 0.0541      | 5,843.9609 |

Mitigated Operational

|          | ROG         | NOx         | CO      | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4         | N2O         | CO2e       |
|----------|-------------|-------------|---------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|------------|------------|-------------|-------------|------------|
| Category | tons/yr     |             |         |             |               |              |             |                |               |             | MT/yr    |            |            |             |             |            |
| Area     | 1.2326      | 1.3000e-004 | 0.0146  | 0.0000      |               | 5.0000e-005  | 5.0000e-005 |                | 5.0000e-005   | 5.0000e-005 | 0.0000   | 0.0282     | 0.0282     | 8.0000e-005 | 0.0000      | 0.0301     |
| Energy   | 3.0400e-003 | 0.0276      | 0.0232  | 1.7000e-004 |               | 2.1000e-003  | 2.1000e-003 |                | 2.1000e-003   | 2.1000e-003 | 0.0000   | 317.3894   | 317.3894   | 0.0165      | 3.8500e-003 | 318.9513   |
| Mobile   | 1.3769      | 13.5321     | 16.0509 | 0.0556      | 3.8731        | 0.0882       | 3.9613      | 1.0572         | 0.0837        | 1.1409      | 0.0000   | 5,109.0598 | 5,109.0598 | 0.1948      | 0.0000      | 5,113.9303 |
| Waste    |             |             |         |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 26.5218  | 0.0000     | 26.5218    | 1.5674      | 0.0000      | 65.7066    |
| Water    |             |             |         |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 15.8482  | 155.1330   | 170.9812   | 1.6364      | 0.0402      | 223.8756   |
| Total    | 2.6126      | 13.5599     | 16.0888 | 0.0557      | 3.8731        | 0.0903       | 3.9634      | 1.0572         | 0.0859        | 1.1431      | 42.3700  | 5,581.6104 | 5,623.9804 | 3.4152      | 0.0441      | 5,722.4939 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4   | N2O   | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|-------|-------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 41.84    | 0.69     | 1.21      | 36.66 | 18.57 | 2.08 |

### 2.3 Vegetation

#### Vegetation

|           |          |
|-----------|----------|
|           | CO2e     |
| Category  | MT       |
| New Trees | 708.0000 |
| Total     | 708.0000 |

### 3.0 Construction Detail

#### Construction Phase

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date  | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|-----------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 2/1/2020   | 1/31/2020 | 5             | 0        |                   |
| 2            | Site Preparation      | Site Preparation      | 2/1/2020   | 2/4/2020  | 5             | 2        |                   |
| 3            | Grading               | Grading               | 2/5/2020   | 3/24/2020 | 5             | 35       |                   |
| 4            | Building Construction | Building Construction | 3/25/2020  | 8/11/2020 | 5             | 100      |                   |
| 5            | Architectural Coating | Architectural Coating | 6/1/2020   | 8/31/2020 | 5             | 66       |                   |
| 6            | Paving                | Paving                | 8/12/2020  | 8/31/2020 | 5             | 14       |                   |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 175

Acres of Paving: 19.77

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 415,238; Non-Residential Outdoor: 138,413; Striped Parking Area:

OffRoad Equipment

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

Trips and VMT

| Phase Name       | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition       | 6                       | 15.00              | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation | 7                       | 18.00              | 0.00               | 0.00                | 14.70              | 6.90               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading          | 13                      | 20.00              | 0.00               | 54.00               | 14.70              | 6.90               | 10.00               | LD_Mix               | HDT_Mix              | HHDT                  |

|                       |   |        |        |      |       |      |       |        |         |      |
|-----------------------|---|--------|--------|------|-------|------|-------|--------|---------|------|
| Building Construction | 9 | 664.00 | 260.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 2 | 133.00 | 0.00   | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving                | 6 | 15.00  | 0.00   | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

### 3.1 Mitigation Measures Construction

- Replace Ground Cover
- Water Exposed Area
- Water Unpaved Roads
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

### 3.2 Demolition - 2020

#### Unmitigated Construction On-Site

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

#### Unmitigated Construction Off-Site

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

[illegible]

### Mitigated Construction On-Site

[illegible]

### Mitigated Construction Off-Site

[illegible]

|       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Total | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

|               | ROG         | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4         | N2O    | CO2e   |
|---------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|----------|-----------|-------------|--------|--------|
| Category      | tons/yr     |        |        |             |               |              |             |                |               |             | MT/yr    |          |           |             |        |        |
| Fugitive Dust |             |        |        |             | 0.0181        | 0.0000       | 0.0181      | 9.9300e-003    | 0.0000        | 9.9300e-003 | 0.0000   | 0.0000   | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Off-Road      | 4.0800e-003 | 0.0424 | 0.0215 | 4.0000e-005 |               | 2.2000e-003  | 2.2000e-003 |                | 2.0200e-003   | 2.0200e-003 | 0.0000   | 3.3431   | 3.3431    | 1.0800e-003 | 0.0000 | 3.3701 |
| Total         | 4.0800e-003 | 0.0424 | 0.0215 | 4.0000e-005 | 0.0181        | 2.2000e-003  | 0.0203      | 9.9300e-003    | 2.0200e-003   | 0.0120      | 0.0000   | 3.3431   | 3.3431    | 1.0800e-003 | 0.0000 | 3.3701 |

Unmitigated Construction Off-Site

|          | ROG         | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4         | N2O    | CO2e   |
|----------|-------------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|----------|-----------|-------------|--------|--------|
| Category | tons/yr     |             |             |        |               |              |             |                |               |             | MT/yr    |          |           |             |        |        |
| Hauling  | 0.0000      | 0.0000      | 0.0000      | 0.0000 | 0.0000        | 0.0000       | 0.0000      | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000   | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Vendor   | 0.0000      | 0.0000      | 0.0000      | 0.0000 | 0.0000        | 0.0000       | 0.0000      | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000   | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Worker   | 9.0000e-005 | 7.0000e-005 | 7.0000e-004 | 0.0000 | 2.0000e-004   | 0.0000       | 2.0000e-004 | 5.0000e-005    | 0.0000        | 5.0000e-005 | 0.0000   | 0.1692   | 0.1692    | 1.0000e-005 | 0.0000 | 0.1693 |
| Total    | 9.0000e-005 | 7.0000e-005 | 7.0000e-004 | 0.0000 | 2.0000e-004   | 0.0000       | 2.0000e-004 | 5.0000e-005    | 0.0000        | 5.0000e-005 | 0.0000   | 0.1692   | 0.1692    | 1.0000e-005 | 0.0000 | 0.1693 |

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 |                    |               |               |                    | 7.7200e-003        | 0.0000             | 7.7200e-003        | 4.2500e-003        | 0.0000             | 4.2500e-003        | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road      | 4.0800e-003        | 0.0424        | 0.0215        | 4.0000e-005        |                    | 2.2000e-003        | 2.2000e-003        |                    | 2.0200e-003        | 2.0200e-003        | 0.0000        | 3.3431        | 3.3431        | 1.0800e-003        | 0.0000        | 3.3701        |
| <b>Total</b>  | <b>4.0800e-003</b> | <b>0.0424</b> | <b>0.0215</b> | <b>4.0000e-005</b> | <b>7.7200e-003</b> | <b>2.2000e-003</b> | <b>9.9200e-003</b> | <b>4.2500e-003</b> | <b>2.0200e-003</b> | <b>6.2700e-003</b> | <b>0.0000</b> | <b>3.3431</b> | <b>3.3431</b> | <b>1.0800e-003</b> | <b>0.0000</b> | <b>3.3701</b> |

Mitigated Construction Off-Site

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 9.0000e-005        | 7.0000e-005        | 7.0000e-004        | 0.0000        | 1.9000e-004        | 0.0000        | 1.9000e-004        | 5.0000e-005        | 0.0000        | 5.0000e-005        | 0.0000        | 0.1692        | 0.1692        | 1.0000e-005        | 0.0000        | 0.1693        |
| <b>Total</b> | <b>9.0000e-005</b> | <b>7.0000e-005</b> | <b>7.0000e-004</b> | <b>0.0000</b> | <b>1.9000e-004</b> | <b>0.0000</b> | <b>1.9000e-004</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>0.1692</b> | <b>0.1692</b> | <b>1.0000e-005</b> | <b>0.0000</b> | <b>0.1693</b> |

3.4 Grading - 2020

Unmitigated Construction On-Site

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

|               |               |               |               |                    |               |               |               |               |               |               |               |                 |                 |               |               |                 |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Fugitive Dust |               |               |               |                    | 0.1982        | 0.0000        | 0.1982        | 0.0680        | 0.0000        | 0.0680        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Off-Road      | 0.1295        | 1.4849        | 0.9665        | 1.9100e-003        |               | 0.0617        | 0.0617        |               | 0.0568        | 0.0568        | 0.0000        | 168.0105        | 168.0105        | 0.0543        | 0.0000        | 169.3690        |
| <b>Total</b>  | <b>0.1295</b> | <b>1.4849</b> | <b>0.9665</b> | <b>1.9100e-003</b> | <b>0.1982</b> | <b>0.0617</b> | <b>0.2599</b> | <b>0.0680</b> | <b>0.0568</b> | <b>0.1247</b> | <b>0.0000</b> | <b>168.0105</b> | <b>168.0105</b> | <b>0.0543</b> | <b>0.0000</b> | <b>169.3690</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|--------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |                    |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 1.2000e-004        | 4.9000e-003        | 7.0000e-004   | 1.0000e-005        | 2.3000e-004        | 1.0000e-005        | 2.4000e-004        | 6.0000e-005        | 1.0000e-005        | 7.0000e-005        | 0.0000        | 1.2031        | 1.2031        | 9.0000e-005        | 0.0000        | 1.2054        |
| Vendor       | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 1.7300e-003        | 1.3600e-003        | 0.0136        | 4.0000e-005        | 3.8400e-003        | 3.0000e-005        | 3.8600e-003        | 1.0200e-003        | 2.0000e-005        | 1.0400e-003        | 0.0000        | 3.2894        | 3.2894        | 1.0000e-004        | 0.0000        | 3.2918        |
| <b>Total</b> | <b>1.8500e-003</b> | <b>6.2600e-003</b> | <b>0.0143</b> | <b>5.0000e-005</b> | <b>4.0700e-003</b> | <b>4.0000e-005</b> | <b>4.1000e-003</b> | <b>1.0800e-003</b> | <b>3.0000e-005</b> | <b>1.1100e-003</b> | <b>0.0000</b> | <b>4.4925</b> | <b>4.4925</b> | <b>1.9000e-004</b> | <b>0.0000</b> | <b>4.4973</b> |

**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 |               |               |               |                    | 0.0847        | 0.0000        | 0.0847        | 0.0291         | 0.0000        | 0.0291        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Off-Road      | 0.1295        | 1.4849        | 0.9665        | 1.9100e-003        |               | 0.0617        | 0.0617        |                | 0.0568        | 0.0568        | 0.0000        | 168.0103        | 168.0103        | 0.0543        | 0.0000        | 169.3688        |
| <b>Total</b>  | <b>0.1295</b> | <b>1.4849</b> | <b>0.9665</b> | <b>1.9100e-003</b> | <b>0.0847</b> | <b>0.0617</b> | <b>0.1465</b> | <b>0.0291</b>  | <b>0.0568</b> | <b>0.0858</b> | <b>0.0000</b> | <b>168.0103</b> | <b>168.0103</b> | <b>0.0543</b> | <b>0.0000</b> | <b>169.3688</b> |

### Mitigated Construction Off-Site

|          | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O    | CO2e   |
|----------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|--------|
| Category | tons/yr     |             |             |             |               |              |             |                |               |             | MT/yr    |           |           |             |        |        |
| Hauling  | 1.2000e-004 | 4.9000e-003 | 7.0000e-004 | 1.0000e-005 | 2.2000e-004   | 1.0000e-005  | 2.3000e-004 | 6.0000e-005    | 1.0000e-005   | 7.0000e-005 | 0.0000   | 1.2031    | 1.2031    | 9.0000e-005 | 0.0000 | 1.2054 |
| Vendor   | 0.0000      | 0.0000      | 0.0000      | 0.0000      | 0.0000        | 0.0000       | 0.0000      | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Worker   | 1.7300e-003 | 1.3600e-003 | 0.0136      | 4.0000e-005 | 3.6400e-003   | 3.0000e-005  | 3.6600e-003 | 9.7000e-004    | 2.0000e-005   | 9.9000e-004 | 0.0000   | 3.2894    | 3.2894    | 1.0000e-004 | 0.0000 | 3.2918 |
| Total    | 1.8500e-003 | 6.2600e-003 | 0.0143      | 5.0000e-005 | 3.8600e-003   | 4.0000e-005  | 3.8900e-003 | 1.0300e-003    | 3.0000e-005   | 1.0600e-003 | 0.0000   | 4.4925    | 4.4925    | 1.9000e-004 | 0.0000 | 4.4973 |

### 3.5 Building Construction - 2020

#### Unmitigated Construction On-Site

|          | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|----------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Category | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |        |        |          |
| Off-Road | 0.1060  | 0.9593 | 0.8424 | 1.3500e-003 |               | 0.0559       | 0.0559     |                | 0.0525        | 0.0525      | 0.0000   | 115.8050  | 115.8050  | 0.0283 | 0.0000 | 116.5113 |
| Total    | 0.1060  | 0.9593 | 0.8424 | 1.3500e-003 |               | 0.0559       | 0.0559     |                | 0.0525        | 0.0525      | 0.0000   | 115.8050  | 115.8050  | 0.0283 | 0.0000 | 116.5113 |

#### Unmitigated Construction Off-Site



|              |               |               |               |                    |               |                    |               |               |                    |               |               |                 |                 |               |               |                 |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|---------------|--------------------|---------------|---------------|-----------------|-----------------|---------------|---------------|-----------------|
| Vendor       | 0.0403        | 1.3878        | 0.2902        | 3.4700e-003        | 0.0785        | 6.3500e-003        | 0.0848        | 0.0228        | 6.0700e-003        | 0.0289        | 0.0000        | 331.9122        | 331.9122        | 0.0230        | 0.0000        | 332.4864        |
| Worker       | 0.1640        | 0.1289        | 1.2877        | 3.4500e-003        | 0.3451        | 2.4300e-003        | 0.3475        | 0.0920        | 2.2400e-003        | 0.0943        | 0.0000        | 312.0203        | 312.0203        | 9.3700e-003   | 0.0000        | 312.2545        |
| <b>Total</b> | <b>0.2043</b> | <b>1.5167</b> | <b>1.5779</b> | <b>6.9200e-003</b> | <b>0.4236</b> | <b>8.7800e-003</b> | <b>0.4324</b> | <b>0.1148</b> | <b>8.3100e-003</b> | <b>0.1231</b> | <b>0.0000</b> | <b>643.9325</b> | <b>643.9325</b> | <b>0.0323</b> | <b>0.0000</b> | <b>644.7409</b> |

### 3.6 Architectural Coating - 2020

#### Unmitigated Construction On-Site

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio-CO2       | Total CO2      | CH4                | N2O           | CO2e           |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |               |                |
| Archit. Coating | 1.4648        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road        | 0.0160        | 0.1111        | 0.1209        | 2.0000e-004        |               | 7.3200e-003        | 7.3200e-003        |                | 7.3200e-003        | 7.3200e-003        | 0.0000        | 16.8515        | 16.8515        | 1.3000e-003        | 0.0000        | 16.8841        |
| <b>Total</b>    | <b>1.4808</b> | <b>0.1111</b> | <b>0.1209</b> | <b>2.0000e-004</b> |               | <b>7.3200e-003</b> | <b>7.3200e-003</b> |                | <b>7.3200e-003</b> | <b>7.3200e-003</b> | <b>0.0000</b> | <b>16.8515</b> | <b>16.8515</b> | <b>1.3000e-003</b> | <b>0.0000</b> | <b>16.8841</b> |

#### Unmitigated Construction Off-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio-CO2       | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 0.0217        | 0.0170        | 0.1702        | 4.6000e-004        | 0.0481        | 3.2000e-004        | 0.0485        | 0.0128         | 3.0000e-004        | 0.0131        | 0.0000        | 41.2487        | 41.2487        | 1.2400e-003        | 0.0000        | 41.2797        |
| <b>Total</b> | <b>0.0217</b> | <b>0.0170</b> | <b>0.1702</b> | <b>4.6000e-004</b> | <b>0.0481</b> | <b>3.2000e-004</b> | <b>0.0485</b> | <b>0.0128</b>  | <b>3.0000e-004</b> | <b>0.0131</b> | <b>0.0000</b> | <b>41.2487</b> | <b>41.2487</b> | <b>1.2400e-003</b> | <b>0.0000</b> | <b>41.2797</b> |

### 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 | 1.4648  |        |        |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000  |
| Off-Road        | 0.0160  | 0.1111 | 0.1209 | 2.0000e-004 |               | 7.3200e-003  | 7.3200e-003 |                | 7.3200e-003   | 7.3200e-003 | 0.0000   | 16.8515   | 16.8515   | 1.3000e-003 | 0.0000 | 16.8841 |
| Total           | 1.4808  | 0.1111 | 0.1209 | 2.0000e-004 |               | 7.3200e-003  | 7.3200e-003 |                | 7.3200e-003   | 7.3200e-003 | 0.0000   | 16.8515   | 16.8515   | 1.3000e-003 | 0.0000 | 16.8841 |

### Mitigated Construction Off-Site

|          | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O    | CO2e    |
|----------|---------|--------|--------|-------------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|---------|
| Category | tons/yr |        |        |             |               |              |            |                |               |             | MT/yr    |           |           |             |        |         |
| Hauling  | 0.0000  | 0.0000 | 0.0000 | 0.0000      | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000  |
| Vendor   | 0.0000  | 0.0000 | 0.0000 | 0.0000      | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000  |
| Worker   | 0.0217  | 0.0170 | 0.1702 | 4.6000e-004 | 0.0456        | 3.2000e-004  | 0.0459     | 0.0122         | 3.0000e-004   | 0.0125      | 0.0000   | 41.2487   | 41.2487   | 1.2400e-003 | 0.0000 | 41.2797 |
| Total    | 0.0217  | 0.0170 | 0.1702 | 4.6000e-004 | 0.0456        | 3.2000e-004  | 0.0459     | 0.0122         | 3.0000e-004   | 0.0125      | 0.0000   | 41.2487   | 41.2487   | 1.2400e-003 | 0.0000 | 41.2797 |

### 3.7 Paving - 2020

#### Unmitigated Construction On-Site

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |                |                |                    |               |                |
| Off-Road     | 9.5000e-003   | 0.0985        | 0.1026        | 1.6000e-004        |               | 5.2700e-003        | 5.2700e-003        |                | 4.8500e-003        | 4.8500e-003        | 0.0000        | 14.0198        | 14.0198        | 4.5300e-003        | 0.0000        | 14.1331        |
| Paving       | 0.0259        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| <b>Total</b> | <b>0.0354</b> | <b>0.0985</b> | <b>0.1026</b> | <b>1.6000e-004</b> |               | <b>5.2700e-003</b> | <b>5.2700e-003</b> |                | <b>4.8500e-003</b> | <b>4.8500e-003</b> | <b>0.0000</b> | <b>14.0198</b> | <b>14.0198</b> | <b>4.5300e-003</b> | <b>0.0000</b> | <b>14.1331</b> |

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 5.2000e-004        | 4.1000e-004        | 4.0700e-003        | 1.0000e-005        | 1.1500e-003        | 1.0000e-005        | 1.1600e-003        | 3.1000e-004        | 1.0000e-005        | 3.1000e-004        | 0.0000        | 0.9868        | 0.9868        | 3.0000e-005        | 0.0000        | 0.9876        |
| <b>Total</b> | <b>5.2000e-004</b> | <b>4.1000e-004</b> | <b>4.0700e-003</b> | <b>1.0000e-005</b> | <b>1.1500e-003</b> | <b>1.0000e-005</b> | <b>1.1600e-003</b> | <b>3.1000e-004</b> | <b>1.0000e-005</b> | <b>3.1000e-004</b> | <b>0.0000</b> | <b>0.9868</b> | <b>0.9868</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>0.9876</b> |

**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-003 | 0.0985 | 0.1026 | 1.6000e-004 |               | 5.2700e-003  | 5.2700e-003 |                | 4.8500e-003   | 4.8500e-003 | 0.0000   | 14.0197   | 14.0197   | 4.5300e-003 | 0.0000 | 14.1331 |

|        |        |        |        |             |  |             |             |  |             |             |        |         |         |             |        |         |
|--------|--------|--------|--------|-------------|--|-------------|-------------|--|-------------|-------------|--------|---------|---------|-------------|--------|---------|
| Paving | 0.0259 |        |        |             |  | 0.0000      | 0.0000      |  | 0.0000      | 0.0000      | 0.0000 | 0.0000  | 0.0000  | 0.0000      | 0.0000 | 0.0000  |
| Total  | 0.0354 | 0.0985 | 0.1026 | 1.6000e-004 |  | 5.2700e-003 | 5.2700e-003 |  | 4.8500e-003 | 4.8500e-003 | 0.0000 | 14.0197 | 14.0197 | 4.5300e-003 | 0.0000 | 14.1331 |

Mitigated Construction Off-Site

|          | ROG         | NOx         | CO          | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O    | CO2e   |
|----------|-------------|-------------|-------------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|--------|
| Category | tons/yr     |             |             |             |               |              |             |                |               |             | MT/yr    |           |           |             |        |        |
| Hauling  | 0.0000      | 0.0000      | 0.0000      | 0.0000      | 0.0000        | 0.0000       | 0.0000      | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Vendor   | 0.0000      | 0.0000      | 0.0000      | 0.0000      | 0.0000        | 0.0000       | 0.0000      | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Worker   | 5.2000e-004 | 4.1000e-004 | 4.0700e-003 | 1.0000e-005 | 1.0900e-003   | 1.0000e-005  | 1.1000e-003 | 2.9000e-004    | 1.0000e-005   | 3.0000e-004 | 0.0000   | 0.9868    | 0.9868    | 3.0000e-005 | 0.0000 | 0.9876 |
| Total    | 5.2000e-004 | 4.1000e-004 | 4.0700e-003 | 1.0000e-005 | 1.0900e-003   | 1.0000e-005  | 1.1000e-003 | 2.9000e-004    | 1.0000e-005   | 3.0000e-004 | 0.0000   | 0.9868    | 0.9868    | 3.0000e-005 | 0.0000 | 0.9876 |

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 | 1.3769  | 13.5321 | 16.0509 | 0.0556 | 3.8731        | 0.0882       | 3.9613     | 1.0572         | 0.0837        | 1.1409      | 0.0000   | 5,109.0598 | 5,109.0598 | 0.1948 | 0.0000 | 5,113.9303 |

|             |        |         |         |        |        |        |        |        |        |        |        |            |            |        |        |            |
|-------------|--------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|------------|------------|--------|--------|------------|
| Unmitigated | 1.3769 | 13.5321 | 16.0509 | 0.0556 | 3.8731 | 0.0882 | 3.9613 | 1.0572 | 0.0837 | 1.1409 | 0.0000 | 5,109.0598 | 5,109.0598 | 0.1948 | 0.0000 | 5,113.9303 |
|-------------|--------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|------------|------------|--------|--------|------------|

#### 4.2 Trip Summary Information

| Land Use                         | Average Daily Trip Rate |          |          | Unmitigated | Mitigated  |
|----------------------------------|-------------------------|----------|----------|-------------|------------|
|                                  | Weekday                 | Saturday | Sunday   | Annual VMT  | Annual VMT |
| Parking Lot                      | 0.00                    | 0.00     | 0.00     |             |            |
| Regional Shopping Center         | 365.00                  | 365.00   | 365.00   | 789,438     | 789,438    |
| Unrefrigerated Warehouse-No Rail | 2,118.55                | 2,118.55 | 2118.55  | 9,079,509   | 9,079,509  |
| Total                            | 2,483.55                | 2,483.55 | 2,483.55 | 9,868,947   | 9,868,947  |

#### 4.3 Trip Type Information

| Land Use                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|----------------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|                                  | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| Parking Lot                      | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Regional Shopping Center         | 16.60      | 8.40       | 6.90        | 16.30      | 64.70      | 19.00       | 54             | 35       | 11      |
| Unrefrigerated Warehouse-No Rail | 16.60      | 8.40       | 6.90        | 59.00      | 0.00       | 41.00       | 92             | 5        | 3       |

#### 4.4 Fleet Mix

| Land Use                         | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Parking Lot                      | 0.546179 | 0.037976 | 0.179086 | 0.122965 | 0.018430 | 0.005460 | 0.017497 | 0.061396 | 0.001337 | 0.001657 | 0.006117 | 0.000817 | 0.001082 |
| Regional Shopping Center         | 0.546179 | 0.037976 | 0.179086 | 0.122965 | 0.018430 | 0.005460 | 0.017497 | 0.061396 | 0.001337 | 0.001657 | 0.006117 | 0.000817 | 0.001082 |
| Unrefrigerated Warehouse-No Rail | 0.227299 | 0.037976 | 0.179086 | 0.122965 | 0.380000 | 0.005460 | 0.017497 | 0.023600 | 0.000000 | 0.000000 | 0.006117 | 0.000000 | 0.000000 |

### 5.0 Energy Detail

Historical Energy Use: N

#### 5.1 Mitigation Measures Energy

|                         | ROG         | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e     |
|-------------------------|-------------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|----------|
| Category                | tons/yr     |        |        |             |               |              |             |                |               |             | M1/yr    |           |           |             |             |          |
| Electricity Mitigated   |             |        |        |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 287.3000  | 287.3000  | 0.0160      | 3.3000e-003 | 288.6831 |
| Electricity Unmitigated |             |        |        |             |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 287.3000  | 287.3000  | 0.0160      | 3.3000e-003 | 288.6831 |
| NaturalGas Mitigated    | 3.0400e-003 | 0.0276 | 0.0232 | 1.7000e-004 |               | 2.1000e-003  | 2.1000e-003 |                | 2.1000e-003   | 2.1000e-003 | 0.0000   | 30.0894   | 30.0894   | 5.8000e-004 | 5.5000e-004 | 30.2682  |
| NaturalGas Unmitigated  | 3.0400e-003 | 0.0276 | 0.0232 | 1.7000e-004 |               | 2.1000e-003  | 2.1000e-003 |                | 2.1000e-003   | 2.1000e-003 | 0.0000   | 30.0894   | 30.0894   | 5.8000e-004 | 5.5000e-004 | 30.2682  |

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     |             |             |             |               |              |             |                |               |             | M1/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  |
| Regional Shopping Center         | 22200          | 1.2000e-004 | 1.0900e-003 | 9.1000e-004 | 1.0000e-005 |               | 8.0000e-005  | 8.0000e-005 |                | 8.0000e-005   | 8.0000e-005 | 0.0000   | 1.1847    | 1.1847    | 2.0000e-005 | 2.0000e-005 | 1.1917  |
| Unrefrigerated Warehouse-No Rail | 541655         | 2.9200e-003 | 0.0266      | 0.0223      | 1.6000e-004 |               | 2.0200e-003  | 2.0200e-003 |                | 2.0200e-003   | 2.0200e-003 | 0.0000   | 28.9048   | 28.9048   | 5.5000e-004 | 5.3000e-004 | 29.0765 |
| Total                            |                | 3.0400e-003 | 0.0276      | 0.0232      | 1.7000e-004 |               | 2.1000e-003  | 2.1000e-003 |                | 2.1000e-003   | 2.1000e-003 | 0.0000   | 30.0894   | 30.0894   | 5.7000e-004 | 5.5000e-004 | 30.2683 |

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             | 0.0000         | 0.0000 |
| Regional Shopping Center    | 22200   | 1.2000e-004        | 1.0900e-003   | 9.1000e-004   | 1.0000e-005        | 8.0000e-005        | 8.0000e-005        | 8.0000e-005        | 8.0000e-005        | 8.0000e-005        | 0.0000        | 1.1847         | 1.1847         | 2.0000e-005        | 2.0000e-005        | 1.1917         |        |
| Unrefrigerated Warehouse-No | 541655  | 2.9200e-003        | 0.0266        | 0.0223        | 1.6000e-004        | 2.0200e-003        | 2.0200e-003        | 2.0200e-003        | 2.0200e-003        | 2.0200e-003        | 0.0000        | 28.9048        | 28.9048        | 5.5000e-004        | 5.3000e-004        | 29.0765        |        |
| <b>Total</b>                |         | <b>3.0400e-003</b> | <b>0.0276</b> | <b>0.0232</b> | <b>1.7000e-004</b> | <b>2.1000e-003</b> | <b>2.1000e-003</b> | <b>2.1000e-003</b> | <b>2.1000e-003</b> | <b>2.1000e-003</b> | <b>0.0000</b> | <b>30.0894</b> | <b>30.0894</b> | <b>5.7000e-004</b> | <b>5.5000e-004</b> | <b>30.2683</b> |        |

5.3 Energy by Land Use - Electricity

Unmitigated

|                             | Electricity Use | Total CO2       | CH4           | N2O                | CO2e            |
|-----------------------------|-----------------|-----------------|---------------|--------------------|-----------------|
| Land Use                    | kWh/yr          | MT/yr           |               |                    |                 |
| Parking Lot                 | 457380          | 108.2963        | 6.0200e-003   | 1.2400e-003        | 108.8176        |
| Regional Shopping Center    | 126300          | 29.9047         | 1.6600e-003   | 3.4000e-004        | 30.0487         |
| Unrefrigerated Warehouse-No | 629707          | 149.0990        | 8.2800e-003   | 1.7100e-003        | 149.8168        |
| <b>Total</b>                |                 | <b>287.3000</b> | <b>0.0160</b> | <b>3.2900e-003</b> | <b>288.6831</b> |

Mitigated

|                          | Electricity Use | Total CO2 | CH4         | N2O         | CO2e     |
|--------------------------|-----------------|-----------|-------------|-------------|----------|
| Land Use                 | kWh/yr          | MT/yr     |             |             |          |
| Parking Lot              | 457380          | 108.2963  | 6.0200e-003 | 1.2400e-003 | 108.8176 |
| Regional Shopping Center | 126300          | 29.9047   | 1.6600e-003 | 3.4000e-004 | 30.0487  |

|                             |        |          |             |             |          |
|-----------------------------|--------|----------|-------------|-------------|----------|
| Unrefrigerated Warehouse-No | 629707 | 149.0990 | 8.2800e-003 | 1.7100e-003 | 149.8168 |
| Total                       |        | 287.3000 | 0.0160      | 3.2900e-003 | 288.6831 |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

|             | ROG     | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O    | CO2e   |
|-------------|---------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|--------|
| Category    | tons/yr |             |        |        |               |              |             |                |               |             | MT/yr    |           |           |             |        |        |
| Mitigated   | 1.2326  | 1.3000e-004 | 0.0146 | 0.0000 |               | 5.0000e-005  | 5.0000e-005 |                | 5.0000e-005   | 5.0000e-005 | 0.0000   | 0.0282    | 0.0282    | 8.0000e-005 | 0.0000 | 0.0301 |
| Unmitigated | 1.2326  | 1.3000e-004 | 0.0146 | 0.0000 |               | 5.0000e-005  | 5.0000e-005 |                | 5.0000e-005   | 5.0000e-005 | 0.0000   | 0.0282    | 0.0282    | 8.0000e-005 | 0.0000 | 0.0301 |

### 6.2 Area by SubCategory

#### Unmitigated

|                       | ROG         | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O    | CO2e   |
|-----------------------|-------------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|--------|
| SubCategory           | tons/yr     |             |        |        |               |              |             |                |               |             | MT/yr    |           |           |             |        |        |
| Architectural Coating | 0.1465      |             |        |        |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Consumer Products     | 1.0848      |             |        |        |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Landscaping           | 1.3700e-003 | 1.3000e-004 | 0.0146 | 0.0000 |               | 5.0000e-005  | 5.0000e-005 |                | 5.0000e-005   | 5.0000e-005 | 0.0000   | 0.0282    | 0.0282    | 8.0000e-005 | 0.0000 | 0.0301 |

|       |        |             |        |        |  |             |             |  |             |             |        |        |        |             |        |        |
|-------|--------|-------------|--------|--------|--|-------------|-------------|--|-------------|-------------|--------|--------|--------|-------------|--------|--------|
| Total | 1.2326 | 1.3000e-004 | 0.0146 | 0.0000 |  | 5.0000e-005 | 5.0000e-005 |  | 5.0000e-005 | 5.0000e-005 | 0.0000 | 0.0282 | 0.0282 | 8.0000e-005 | 0.0000 | 0.0301 |
|-------|--------|-------------|--------|--------|--|-------------|-------------|--|-------------|-------------|--------|--------|--------|-------------|--------|--------|

Mitigated

|                       | ROG         | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O    | CO2e   |
|-----------------------|-------------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|--------|
| SubCategory           | tons/yr     |             |        |        |               |              |             |                |               |             | MT/yr    |           |           |             |        |        |
| Architectural Coating | 0.1465      |             |        |        |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Consumer Products     | 1.0848      |             |        |        |               | 0.0000       | 0.0000      |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000 | 0.0000 |
| Landscaping           | 1.3700e-003 | 1.3000e-004 | 0.0146 | 0.0000 |               | 5.0000e-005  | 5.0000e-005 |                | 5.0000e-005   | 5.0000e-005 | 0.0000   | 0.0282    | 0.0282    | 8.0000e-005 | 0.0000 | 0.0301 |
| Total                 | 1.2326      | 1.3000e-004 | 0.0146 | 0.0000 |               | 5.0000e-005  | 5.0000e-005 |                | 5.0000e-005   | 5.0000e-005 | 0.0000   | 0.0282    | 0.0282    | 8.0000e-005 | 0.0000 | 0.0301 |

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

|          | Total CO2 | CH4 | N2O | CO2e |
|----------|-----------|-----|-----|------|
| Category | MT/yr     |     |     |      |

|             |          |        |        |          |
|-------------|----------|--------|--------|----------|
| Mitigated   | 170.9812 | 1.6364 | 0.0402 | 223.8756 |
| Unmitigated | 213.5189 | 2.0455 | 0.0503 | 279.6360 |

## 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          |
| Regional Shopping Center         | 0.740725 / 0.453993 | 3.7130          | 0.0243        | 6.1000e-004   | 4.5029          |
| Unrefrigerated Warehouse-No Pail | 61.7021 / 0         | 209.8060        | 2.0211        | 0.0497        | 275.1331        |
| <b>Total</b>                     |                     | <b>213.5189</b> | <b>2.0455</b> | <b>0.0503</b> | <b>279.6360</b> |

### 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          |
| Regional Shopping Center         | 0.59258 / 0.426299 | 3.1364          | 0.0195        | 4.9000e-004   | 3.7692          |
| Unrefrigerated Warehouse-No Pail | 49.3617 / 0        | 167.8448        | 1.6169        | 0.0397        | 220.1065        |
| <b>Total</b>                     |                    | <b>170.9811</b> | <b>1.6364</b> | <b>0.0402</b> | <b>223.8756</b> |

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

|             | Total CO2 | CH4    | N2O    | CO2e     |
|-------------|-----------|--------|--------|----------|
|             | MT/yr     |        |        |          |
| Mitigated   | 26.5218   | 1.5674 | 0.0000 | 65.7066  |
| Unmitigated | 53.0436   | 3.1348 | 0.0000 | 131.4132 |

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   |
| Regional Shopping Center         | 10.5           | 2.1314    | 0.1260 | 0.0000 | 5.2805   |
| Unrefrigerated Warehouse-No Pail | 250.81         | 50.9122   | 3.0088 | 0.0000 | 126.1327 |
| Total                            |                | 53.0436   | 3.1348 | 0.0000 | 131.4132 |

Mitigated

|                             | Waste Disposed | Total CO2 | CH4    | N2O    | CO2e    |
|-----------------------------|----------------|-----------|--------|--------|---------|
| Land Use                    | tons           | MT/yr     |        |        |         |
| Parking Lot                 | 0              | 0.0000    | 0.0000 | 0.0000 | 0.0000  |
| Regional Shopping Center    | 5.25           | 1.0657    | 0.0630 | 0.0000 | 2.6402  |
| Unrefrigerated Warehouse-No | 125.405        | 25.4561   | 1.5044 | 0.0000 | 63.0664 |
| Total                       |                | 26.5218   | 1.5674 | 0.0000 | 65.7066 |

9.0 Operational Offroad

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|                | 0      | 0.00      | 0         |             |             | Diesel    |

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

---

|             |           |        |        |          |
|-------------|-----------|--------|--------|----------|
|             | Total CO2 | CH4    | N2O    | CO2e     |
| Category    | MT        |        |        |          |
| Unmitigated | 708.0000  | 0.0000 | 0.0000 | 708.0000 |

11.2 Net New Trees

Species Class

|               |                    |           |        |        |          |
|---------------|--------------------|-----------|--------|--------|----------|
|               | Number of<br>Trees | Total CO2 | CH4    | N2O    | CO2e     |
|               |                    | MT        |        |        |          |
| Miscellaneous | 1000               | 708.0000  | 0.0000 | 0.0000 | 708.0000 |
| Total         |                    | 708.0000  | 0.0000 | 0.0000 | 708.0000 |

Bridge Point Upland - Existing Rock Crushing - San Bernardino-South Coast County, Annual

## Bridge Point Upland - Existing Rock Crushing

### San Bernardino-South Coast County, Annual

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses               | Size  | Metric            | Lot Acreage | Floor Surface Area | Population |
|-------------------------|-------|-------------------|-------------|--------------------|------------|
| User Defined Industrial | 40.00 | User Defined Unit | 40.00       | 0.00               | 0          |

### 1.2 Other Project Characteristics

|                                 |                            |                                 |       |                                  |       |
|---------------------------------|----------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                      | <b>Wind Speed (m/s)</b>         | 2.2   | <b>Precipitation Freq (Days)</b> | 32    |
| <b>Climate Zone</b>             | 10                         |                                 |       | <b>Operational Year</b>          | 2019  |
| <b>Utility Company</b>          | Southern California Edison |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 702.44                     | <b>CH4 Intensity (lb/MW hr)</b> | 0.029 | <b>N2O Intensity (lb/MW hr)</b>  | 0.006 |

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

Project Characteristics -

Land Use - Rock crushing on approx. 40 acre site

Construction Phase - current operation

Off-road Equipment - current-onsite equipment, cone, jaw, screen, loaders, stackers, water trucks

Trips and VMT - approximately 78 trucks per day one way

Grading - Approximately 78 trucks per day one way

Construction Off-road Equipment Mitigation - Per SCAQMD Rule 403

Architectural Coating -

Vehicle Trips -

| Table Name             | Column Name                     | Default Value | New Value |
|------------------------|---------------------------------|---------------|-----------|
| tblConstDustMitigation | CleanPavedRoadPercentReduction  | 0             | 6         |
| tblConstDustMitigation | WaterUnpavedRoadMoistureContent | 0             | 12        |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed    | 0             | 15        |
| tblConstructionPhase   | NumDays                         | 75.00         | 261.00    |
| tblGrading             | MaterialExported                | 0.00          | 1,248.00  |
| tblLandUse             | LotAcreage                      | 0.00          | 40.00     |
| tblOffRoadEquipment    | HorsePower                      | 168.00        | 350.00    |
| tblOffRoadEquipment    | HorsePower                      | 168.00        | 300.00    |
| tblOffRoadEquipment    | HorsePower                      | 168.00        | 100.00    |
| tblOffRoadEquipment    | HorsePower                      | 203.00        | 375.00    |
| tblOffRoadEquipment    | HorsePower                      | 203.00        | 300.00    |
| tblOffRoadEquipment    | OffRoadEquipmentUnitAmount      | 2.00          | 0.00      |
| tblOffRoadEquipment    | OffRoadEquipmentUnitAmount      | 1.00          | 0.00      |
| tblOffRoadEquipment    | OffRoadEquipmentUnitAmount      | 1.00          | 0.00      |
| tblOffRoadEquipment    | OffRoadEquipmentUnitAmount      | 2.00          | 0.00      |
| tblOffRoadEquipment    | OffRoadEquipmentUnitAmount      | 2.00          | 0.00      |
| tblTripsAndVMT         | HaulingTripNumber               | 156.00        | 40,761.00 |

2.0 Emissions Summary

2.1 Overall Construction  
Unmitigated Construction

|      | ROG     | NOx     | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|------|---------|---------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Year | tons/yr |         |        |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| 2019 | 0.7730  | 11.8591 | 5.0004 | 0.0259 | 0.3866        | 0.2981       | 0.6848     | 0.1059         | 0.2779        | 0.3838      | 0.0000   | 2,427.9968 | 2,427.9968 | 0.3426 | 0.0000 | 2,436.5619 |

|         |        |         |        |        |        |        |        |        |        |        |        |            |            |        |        |            |
|---------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------|------------|--------|--------|------------|
| Maximum | 0.7730 | 11.8591 | 5.0004 | 0.0259 | 0.3866 | 0.2981 | 0.6848 | 0.1059 | 0.2779 | 0.3838 | 0.0000 | 2,427.9968 | 2,427.9968 | 0.3426 | 0.0000 | 2,436.5619 |
|---------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------|------------|--------|--------|------------|

**Mitigated Construction**

|         | ROG     | NOx     | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|---------|---------|---------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Year    | tons/yr |         |        |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| 2019    | 0.7730  | 11.8591 | 5.0004 | 0.0259 | 0.3689        | 0.2981       | 0.6671     | 0.1015         | 0.2779        | 0.3794      | 0.0000   | 2,427.9958 | 2,427.9958 | 0.3426 | 0.0000 | 2,436.5608 |
| Maximum | 0.7730  | 11.8591 | 5.0004 | 0.0259 | 0.3689        | 0.2981       | 0.6671     | 0.1015         | 0.2779        | 0.3794      | 0.0000   | 2,427.9958 | 2,427.9958 | 0.3426 | 0.0000 | 2,436.5608 |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 4.58          | 0.00         | 2.59       | 4.11           | 0.00          | 1.13        | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |

| Quarter | Start Date | End Date  | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|----------------------------------------------|--------------------------------------------|
| 1       | 2-11-2019  | 5-10-2019 | 3.0469                                       | 3.0469                                     |
| 2       | 5-11-2019  | 8-10-2019 | 3.1439                                       | 3.1439                                     |
| 3       | 8-11-2019  | 9-30-2019 | 1.7428                                       | 1.7428                                     |
|         |            | Highest   | 3.1439                                       | 3.1439                                     |

**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     | 5.0000e-005 | 0.0000 | 5.2000e-004 | 0.0000 |        | 0.0000 | 0.0000 |        | 0.0000 | 0.0000 | 0.0000 | 9.9000e-004 | 9.9000e-004 | 0.0000 | 0.0000 | 1.0600e-003 |
| Energy   | 0.0000      | 0.0000 | 0.0000      | 0.0000 |        | 0.0000 | 0.0000 |        | 0.0000 | 0.0000 | 0.0000 | 0.0000      | 0.0000      | 0.0000 | 0.0000 | 0.0000      |
| Mobile   | 0.0000      | 0.0000 | 0.0000      | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000      | 0.0000      | 0.0000 | 0.0000 | 0.0000      |
| Waste    |             |        |             |        |        | 0.0000 | 0.0000 |        | 0.0000 | 0.0000 | 0.0000 | 0.0000      | 0.0000      | 0.0000 | 0.0000 | 0.0000      |
| Water    |             |        |             |        |        | 0.0000 | 0.0000 |        | 0.0000 | 0.0000 | 0.0000 | 0.0000      | 0.0000      | 0.0000 | 0.0000 | 0.0000      |
| Total    | 5.0000e-005 | 0.0000 | 5.2000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 9.9000e-004 | 9.9000e-004 | 0.0000 | 0.0000 | 1.0600e-003 |

### 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     | 5.0000e-005 | 0.0000 | 5.2000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 9.9000e-004 | 9.9000e-004 | 0.0000 | 0.0000 | 1.0600e-003 |
| Energy   | 0.0000      | 0.0000 | 0.0000      | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000      | 0.0000      | 0.0000 | 0.0000 | 0.0000      |
| Mobile   | 0.0000      | 0.0000 | 0.0000      | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000      | 0.0000      | 0.0000 | 0.0000 | 0.0000      |
| Waste    |             |        |             |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000      | 0.0000      | 0.0000 | 0.0000 | 0.0000      |
| Water    |             |        |             |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000      | 0.0000      | 0.0000 | 0.0000 | 0.0000      |
| Total    | 5.0000e-005 | 0.0000 | 5.2000e-004 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 9.9000e-004 | 9.9000e-004 | 0.0000 | 0.0000 | 1.0600e-003 |

[illegible]

3.0 Construction Detail

Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|------------|------------|------------|------------|---------------|----------|-------------------|
| 1            | Grading    | Grading    | 1/1/2019   | 12/31/2019 | 5             | 261      |                   |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

| Phase Name | Offroad Equipment Type            | Amount | Usage Hours | Horse Power | Load Factor |
|------------|-----------------------------------|--------|-------------|-------------|-------------|
| Grading    | Crushing/Proc. Equipment          | 1      | 8.00        | 85          | 0.78        |
| Grading    | Excavators                        | 0      | 8.00        | 158         | 0.38        |
| Grading    | Graders                           | 0      | 8.00        | 187         | 0.41        |
| Grading    | Off-Highway Trucks                | 2      | 4.00        | 402         | 0.38        |
| Grading    | Other Material Handling Equipment | 1      | 8.00        | 350         | 0.40        |
| Grading    | Other Material Handling Equipment | 1      | 8.00        | 300         | 0.40        |
| Grading    | Other Material Handling Equipment | 3      | 8.00        | 100         | 0.40        |
| Grading    | Rubber Tired Dozers               | 0      | 8.00        | 247         | 0.40        |
| Grading    | Rubber Tired Loaders              | 1      | 8.00        | 375         | 0.36        |
| Grading    | Rubber Tired Loaders              | 1      | 8.00        | 300         | 0.36        |
| Grading    | Scrapers                          | 0      | 8.00        | 367         | 0.48        |
| Grading    | Tractors/Loaders/Backhoes         | 0      | 8.00        | 97          | 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 |
|------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
|------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|

|         |    |       |      |           |       |      |       |        |         |      |
|---------|----|-------|------|-----------|-------|------|-------|--------|---------|------|
| Grading | 10 | 25.00 | 0.00 | 40,761.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
|---------|----|-------|------|-----------|-------|------|-------|--------|---------|------|

### 3.1 Mitigation Measures Construction

- Replace Ground Cover
- Water Exposed Area
- Water Unpaved Roads
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

### 3.2 Grading - 2019

#### Unmitigated Construction On-Site

|               | ROG     | NOx    | CO     | SO2         | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e     |
|---------------|---------|--------|--------|-------------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|----------|
| Category      | tons/yr |        |        |             |               |              |             |                |               |             | MT/yr    |           |           |        |        |          |
| Fugitive Dust |         |        |        |             | 7.0000e-005   | 0.0000       | 7.0000e-005 | 1.0000e-005    | 0.0000        | 1.0000e-005 | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000   |
| Off-Road      | 0.6164  | 6.3197 | 4.0303 | 9.5900e-003 |               | 0.2797       | 0.2797      |                | 0.2603        | 0.2603      | 0.0000   | 857.8225  | 857.8225  | 0.2529 | 0.0000 | 864.1445 |
| Total         | 0.6164  | 6.3197 | 4.0303 | 9.5900e-003 | 7.0000e-005   | 0.2797       | 0.2798      | 1.0000e-005    | 0.2603        | 0.2603      | 0.0000   | 857.8225  | 857.8225  | 0.2529 | 0.0000 | 864.1445 |

#### Unmitigated Construction Off-Site

|          | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2  | Total CO2  | CH4    | N2O    | CO2e       |
|----------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|------------|------------|--------|--------|------------|
| Category | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |            |            |        |        |            |
| Hauling  | 0.1391  | 5.5251 | 0.8296 | 0.0160 | 0.3508        | 0.0182       | 0.3690     | 0.0963         | 0.0174        | 0.1137      | 0.0000   | 1,538.5260 | 1,538.5260 | 0.0887 | 0.0000 | 1,540.7428 |

|              |               |               |               |               |               |               |               |               |               |               |               |                   |                   |               |               |                   |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Worker       | 0.0175        | 0.0143        | 0.1405        | 3.5000e-004   | 0.0358        | 2.5000e-004   | 0.0360        | 9.5000e-003   | 2.3000e-004   | 9.7300e-003   | 0.0000        | 31.6484           | 31.6484           | 1.0500e-003   | 0.0000        | 31.6745           |
| <b>Total</b> | <b>0.1566</b> | <b>5.5394</b> | <b>0.9701</b> | <b>0.0163</b> | <b>0.3866</b> | <b>0.0184</b> | <b>0.4050</b> | <b>0.1058</b> | <b>0.0176</b> | <b>0.1235</b> | <b>0.0000</b> | <b>1,570.1744</b> | <b>1,570.1744</b> | <b>0.0897</b> | <b>0.0000</b> | <b>1,572.4173</b> |

**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 |               |               |               |                    | 3.0000e-005        | 0.0000        | 3.0000e-005   | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000        | 0.0000        | 0.0000          |
| Off-Road      | 0.6164        | 6.3197        | 4.0303        | 9.5900e-003        |                    | 0.2797        | 0.2797        |                | 0.2603        | 0.2603        | 0.0000        | 857.8214        | 857.8214        | 0.2529        | 0.0000        | 864.1435        |
| <b>Total</b>  | <b>0.6164</b> | <b>6.3197</b> | <b>4.0303</b> | <b>9.5900e-003</b> | <b>3.0000e-005</b> | <b>0.2797</b> | <b>0.2797</b> | <b>0.0000</b>  | <b>0.2603</b> | <b>0.2603</b> | <b>0.0000</b> | <b>857.8214</b> | <b>857.8214</b> | <b>0.2529</b> | <b>0.0000</b> | <b>864.1435</b> |

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio-CO2          | Total CO2         | CH4           | N2O           | CO2e              |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|-------------------|
| Category     | tons/yr       |               |               |               |               |               |               |                |               |               | MT/yr         |                   |                   |               |               |                   |
| Hauling      | 0.1391        | 5.5251        | 0.8296        | 0.0160        | 0.3350        | 0.0182        | 0.3532        | 0.0925         | 0.0174        | 0.1099        | 0.0000        | 1,538.5260        | 1,538.5260        | 0.0887        | 0.0000        | 1,540.7428        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000            | 0.0000            | 0.0000        | 0.0000        | 0.0000            |
| Worker       | 0.0175        | 0.0143        | 0.1405        | 3.5000e-004   | 0.0339        | 2.5000e-004   | 0.0342        | 9.0400e-003    | 2.3000e-004   | 9.2700e-003   | 0.0000        | 31.6484           | 31.6484           | 1.0500e-003   | 0.0000        | 31.6745           |
| <b>Total</b> | <b>0.1566</b> | <b>5.5394</b> | <b>0.9701</b> | <b>0.0163</b> | <b>0.3689</b> | <b>0.0184</b> | <b>0.3873</b> | <b>0.1015</b>  | <b>0.0176</b> | <b>0.1191</b> | <b>0.0000</b> | <b>1,570.1744</b> | <b>1,570.1744</b> | <b>0.0897</b> | <b>0.0000</b> | <b>1,572.4173</b> |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

|                         | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|-------------------------|-------------------------|----------|--------|-------------|------------|
| Land Use                | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| User Defined Industrial | 0.00                    | 0.00     | 0.00   |             |            |
| Total                   | 0.00                    | 0.00     | 0.00   |             |            |

4.3 Trip Type Information

|                         | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-------------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| Land Use                | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| User Defined Industrial | 16.60      | 8.40       | 6.90        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

4.4 Fleet Mix

| Land Use                | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|-------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| User Defined Industrial | 0.541740 | 0.038987 | 0.178620 | 0.126833 | 0.019742 | 0.005671 | 0.017070 | 0.060066 | 0.001326 | 0.001715 | 0.006244 | 0.000823 | 0.001163 |



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    |           |           |        |        |        |
| User Defined Industrial | 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     |        |        |        |
| User Defined Industrial | 0               | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Total                   |                 | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Mitigated

|  | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|--|-----------------|-----------|-----|-----|------|
|--|-----------------|-----------|-----|-----|------|

| Land Use     | kWh/yr | MT/yr         |               |               |               |
|--------------|--------|---------------|---------------|---------------|---------------|
| User Defined | 0      | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Industrial   |        |               |               |               |               |
| <b>Total</b> |        | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

## 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   | 5.0000e-005 | 0.0000 | 5.2000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 9.9000e-004 | 9.9000e-004 | 0.0000 | 0.0000 | 1.0600e-003 |
| Unmitigated | 5.0000e-005 | 0.0000 | 5.2000e-004 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 9.9000e-004 | 9.9000e-004 | 0.0000 | 0.0000 | 1.0600e-003 |

## 6.2 Area by SubCategory

**Unmitigated**

[illegible]

|                   |                    |               |                    |               |  |               |               |  |               |               |               |                    |                    |               |               |                    |
|-------------------|--------------------|---------------|--------------------|---------------|--|---------------|---------------|--|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| Consumer Products | 0.0000             |               |                    |               |  | 0.0000        | 0.0000        |  | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping       | 5.0000e-005        | 0.0000        | 5.2000e-004        | 0.0000        |  | 0.0000        | 0.0000        |  | 0.0000        | 0.0000        | 0.0000        | 9.9000e-004        | 9.9000e-004        | 0.0000        | 0.0000        | 1.0600e-003        |
| <b>Total</b>      | <b>5.0000e-005</b> | <b>0.0000</b> | <b>5.2000e-004</b> | <b>0.0000</b> |  | <b>0.0000</b> | <b>0.0000</b> |  | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>9.9000e-004</b> | <b>9.9000e-004</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.0600e-003</b> |

Mitigated

|                       | ROG                | NOx           | CO                 | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2          | Total CO2          | CH4           | N2O           | CO2e               |
|-----------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|
| SubCategory           | tons/yr            |               |                    |               |               |               |               |                |               |               | MT/yr         |                    |                    |               |               |                    |
| Architectural Coating | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Consumer Products     | 0.0000             |               |                    |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             |
| Landscaping           | 5.0000e-005        | 0.0000        | 5.2000e-004        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        | 0.0000        | 9.9000e-004        | 9.9000e-004        | 0.0000        | 0.0000        | 1.0600e-003        |
| <b>Total</b>          | <b>5.0000e-005</b> | <b>0.0000</b> | <b>5.2000e-004</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>9.9000e-004</b> | <b>9.9000e-004</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.0600e-003</b> |

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

|                         |                    |           |        |        |        |
|-------------------------|--------------------|-----------|--------|--------|--------|
|                         | Indoor/Outdoor Use | Total CO2 | CH4    | N2O    | CO2e   |
| Land Use                | Mgal               | MT/yr     |        |        |        |
| User Defined Industrial | 0 / 0              | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Total                   |                    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Mitigated

|                         |                    |           |        |        |        |
|-------------------------|--------------------|-----------|--------|--------|--------|
|                         | Indoor/Outdoor Use | Total CO2 | CH4    | N2O    | CO2e   |
| Land Use                | Mgal               | MT/yr     |        |        |        |
| User Defined Industrial | 0 / 0              | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Total                   |                    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

8.0 Waste Detail

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8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

|                         |                |           |        |        |        |
|-------------------------|----------------|-----------|--------|--------|--------|
|                         | Waste Disposed | Total CO2 | CH4    | N2O    | CO2e   |
| Land Use                | tons           | MT/yr     |        |        |        |
| User Defined Industrial | 0              | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Total                   |                | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Mitigated

|          |                |           |     |     |      |
|----------|----------------|-----------|-----|-----|------|
|          | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
| Land Use | tons           | MT/yr     |     |     |      |

|                         |   |               |               |               |               |
|-------------------------|---|---------------|---------------|---------------|---------------|
| User Defined Industrial | 0 | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b>            |   | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

### 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

**GHG Emissions Reductions from Electric Forklifts**  
Bridge Point Upland Project  
Upland, California

| Number of Equipment <sup>1</sup> | Hours per Day <sup>1</sup> | Days per Year <sup>1</sup> | Equipment Size <sup>2</sup> (hp) | Equipment Size (kW) | Load Factor <sup>2</sup> | SCE electricity emission factor <sup>3</sup> (MT CO <sub>2</sub> e/MWh) | Emissions (MT CO <sub>2</sub> e/year) |
|----------------------------------|----------------------------|----------------------------|----------------------------------|---------------------|--------------------------|-------------------------------------------------------------------------|---------------------------------------|
| 12                               | 8                          | 365                        | 89                               | 66.4                | 0.2                      | 0.24                                                                    | 110.6                                 |

- Notes:
- <sup>1</sup> Project-specific data.
  - <sup>2</sup> Equipment size and load factors based on CalEEMod Appendix D, Table 3.3.
  - <sup>3</sup> CO<sub>2</sub>e intensity factor for SCE accounts for the 33% projected RPS for 2020 consistent with SB 100.

Conversion Factors:

- 0.7457 kW/hp
- 1000 kW/MW

## GHG Emissions Reductions for Electric Vehicle Charging Stations

Bridge Point Upland Project  
Upland, California

| Estimating GHG Emissions Reduction to Replace Gasoline Vehicle with Electric Vehicle         |                 |                                              |
|----------------------------------------------------------------------------------------------|-----------------|----------------------------------------------|
|                                                                                              | Worker Chargers |                                              |
| SCE electricity emission factor <sup>1</sup>                                                 | 0.24            | (MT CO <sub>2</sub> e/MWh)                   |
| Fuel Economy of Electric Vehicle <sup>2</sup>                                                | 0.25            | (kWh/mile)                                   |
| Electric Vehicle GHG Emissions <sup>3</sup>                                                  | 59              | (gms/mile)                                   |
| Gasoline/Diesel CO <sub>2</sub> emission while running <sup>4</sup>                          | 312             | (gms/mile)                                   |
| GHG Emissions Reduction from Additional Electric Vehicles, per mile                          | 252             | (gms/mile)                                   |
| Annual Energy Delivery per Parking Spot <sup>4</sup>                                         | 7,056           | (kWh/charging station/year)                  |
| Annual VMT Displacement per Parking Spot <sup>5</sup>                                        | 28,224          | (miles/charging station/year)                |
| GHG Reduction per Parking Space with Charging per Year                                       | 7.1             | (MT CO <sub>2</sub> e/charging station/year) |
| Estimated Benefit from Installing Off-Site and Commercial Electric Vehicle Charging Stations |                 |                                              |
| Number of On-Site Parking Spots Provided Chargers <sup>6</sup>                               | 30              | (charging stations)                          |
| Annual VMT Displacement at On-Site Commercial Stations (Based on Charge)                     | 846,720         | (miles/year)                                 |
| GHG Emissions Reduction from On-Site Commercial Parking Spots <sup>7</sup>                   | 214             | (MT CO <sub>2</sub> e/year)                  |

### Notes:

<sup>1</sup> CO<sub>2</sub>e intensity factor for SCE accounts for the 33% projected RPS for 2020 consistent with SB 100.

<sup>2</sup> National Renewable Energy Laboratory (NREL), 2018. California Plug-In Electric Vehicle Infrastructure Projections: 2017-2025 (Table C.1). Available at: <https://www.nrel.gov/docs/fy18osti/70893.pdf>. Accessed: January 2020.

<sup>3</sup> Electric vehicle GHG emissions per mile are estimated based on the SCE electricity emission factor (MT CO<sub>2</sub>e/MWh) and the fuel economy of electric vehicles (kWh/mile).

<sup>4</sup> EMFAC2014 running and starting exhaust emission rate for CO<sub>2</sub> for vehicles in San Bernardino County (South Coast), aggregated for all models and speeds, averaged over all seasons for 2021. For worker chargers, uses light duty gasoline- and diesel-powered vehicle types. Available at: <http://www.arb.ca.gov/emfac/>. Accessed: January 2020.

<sup>5</sup> Annual Energy Delivery and VMT reduction based on an average monthly energy delivery of 588 kWh per charging station for conventional Level 2 chargers, as estimated by the California Energy Commission. Available at: <https://www.energy.ca.gov/2018publications/CEC-500-2018-020/CEC-500-2018-020.pdf>. Annual VMT displacement per parking spot is the total kWh per month multiplied by the fuel economy in miles per kWh.

<sup>6</sup> Number of charging stations based on project commitment.

<sup>7</sup> GHG emissions reductions are calculated as the difference between GHG emissions of gasoline/diesel vehicles and GHG emissions of electric vehicles multiplied by the annual VMT displacement charging stations.

### Abbreviations:

CARB - California Air Resources Board

CH<sub>4</sub> - methane

CO<sub>2</sub> - carbon dioxide

CO<sub>2</sub>e - carbon dioxide equivalents

EMFAC - California Air Resources Board Emissions Factor Model

EV - electric vehicle

GHG - greenhouse gases

gms - grams

kWh - kilowatt-hour

MT - metric tonnes

MWh - megawatt-hour

SCE - Southern California Edison

TDM - Transportation Demand Management

VMT - vehicle miles traveled

|                    |          |
|--------------------|----------|
| work days per year | 261      |
| lb/MT              | 2204.62  |
| MT/gram            | 1.00E-06 |
| MWh to kWh         | 0.001    |

## GHG Emissions Reduction from Rooftop Solar Photovoltaic Panels

Bridge Point Upland Project

Upland, California

| Parameters                                      |            | Units                        |
|-------------------------------------------------|------------|------------------------------|
| Project Electricity Use                         | 1,213      | MWh/yr                       |
| Percent of Project Electricity covered by Solar | 100%       |                              |
| System Size <sup>1</sup>                        | 0.75       | MW                           |
| NREL Panel Size                                 | 1          | kW/m <sup>2</sup>            |
| NREL Panel Efficiency                           | 15%        |                              |
| Panel Size <sup>1</sup>                         | 13.9       | kW/1000 sqft Panel           |
| Solar Panel Module Area <sup>2</sup>            | 53,820     | sqft                         |
| System Generation <sup>2</sup>                  | 1,217      | MWh/year                     |
| Electricity Intensity Factor <sup>3</sup>       | 524        | lb CO <sub>2</sub> e/MWh     |
| <b>Annual GHG Emission Reduction</b>            | <b>289</b> | <b>MT CO<sub>2</sub>e/yr</b> |

### Notes

<sup>1</sup> System size based on Project-specific data.

<sup>2</sup> System generation was determined using default commercial rooftop solar array assumptions in the National Renewable Energy Laboratory's PVWatts tool. Available at: <http://pvwatts.nrel.gov/pvwatts.php>.

<sup>3</sup> CO<sub>2</sub>e weighted intensity factor for SCE accounts for CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub> emissions rates under the 33% RPS for 2020.

### Abbreviations

CO<sub>2</sub>e - carbon dioxide equivalents

GHG - greenhouse gases

kW - kilowatt

kWh - kilowatt-hour

lb - pound

MT - metric tonnes

MWh - megawatt-hour

RPS - Renewable Portfolio Standards

SCE - Southern California Edison

sqft - square feet

yr - year

PV - photovoltaic

### Conversion Factors:

|                                       |          |
|---------------------------------------|----------|
| lb/MT                                 | 2204.62  |
| MT/gram                               | 1.00E-06 |
| MWh to kWh                            | 0.001    |
| (lbs CO <sub>2</sub> e/MWh delivered) | 524.45   |
| ft/m                                  | 3.28     |

|                                      |         |                |
|--------------------------------------|---------|----------------|
| lbs CO <sub>2</sub> /MWh delivered   | 522     | 2020 RPS (33%) |
| CH <sub>4</sub> Intensity (lb/MWhr)  | 0.029   | 25             |
| N <sub>2</sub> O Intensity (lb/MWhr) | 0.00617 | 298            |