# *Appendix A.*
# *Air Quality Worksheets*

# Appendix A. Air Quality and Greenhouse Gas Background and Modeling Data

## *AIR QUALITY*

The Air Quality section addresses the impacts of the proposed project on ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations. Air pollutants of concern include ozone ($O_3$), carbon monoxide (CO), particulate matter ($PM_{10}$ and $PM_{2.5}$), and oxides of nitrogen ($NO_x$). This section analyzes the type and quantity of emissions that would be generated by the construction and operation of the proposed project.

### *CLIMATE/METEOROLOGY*

The project site is in the South Coast Air Basin (SoCAB), which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties. The air basin is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds.

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the site is the Tustin Irvine Ranch Station. The average low is reported at 40.2°F in January and the average high is 85.2°F in August (WRCC 2012).

In contrast to the very steady temperature pattern, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast with slightly heavier shower activity in the east and over the mountains. Rainfall in the project area averages approximately 12.86 inches per year, as measured in the project vicinity (WRCC 2012).

Although the SoCAB has a semi-arid climate, the air near the surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by off-shore winds, the ocean effect is dominant. Periods of heavy fog, especially along the coastline, are frequent; and low stratus clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB.

Wind patterns across the south coastal region are characterized by westerly and southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season. Annually, typical winds in the project area average about 5 to 8 miles per hour during the day and 2 to 5 miles per hour during the night.

Between periods of wind, periods of air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other

meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the "mixing height." The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area.

### *AIR QUALITY REGULATIONS, PLANS AND POLICIES*

The proposed project has the potential to release gaseous emissions of criteria pollutants and dust into the ambient air; therefore, it falls under the ambient air quality standards promulgated at the local, state, and federal levels. The project site is in the SoCAB and is subject to the rules and regulations imposed by the South Coast Air Quality Management District (SCAQMD). However, the SCAQMD reports to California Air Resources board (CARB), and all criteria emissions are also governed by the California and national Ambient Air Quality Standards (AAQS). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

#### *Ambient Air Quality Standards*

The Federal Clean Air Act (FCAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act Amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting AAQS and the Prevention of Significant Deterioration program. The 1990 Amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The FCAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the State AAQS by the earliest practical date. The State AAQS tend to be more restrictive than the Federal AAQS and are based on even greater health and welfare concerns.

The AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect sensitive receptors, those most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both the State of California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 1, these pollutants include $O_3$, $NO_2$, CO, $SO_2$, $PM_{10}$, $PM_{2.5}$, and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

**Table 1**
**Ambient Air Quality Standards for Criteria Pollutants**

| Pollutant | Averaging Time | California Standard | Federal Primary Standard | Major Pollutant Sources |
|---|---|---|---|---|
| Ozone ($O_3$) | 1 hour | 0.09 ppm | * | Motor vehicles, paints, coatings, and solvents. |
| | 8 hours | 0.070 ppm | 0.075 ppm | |
| Carbon Monoxide (CO) | 1 hour | 20 ppm | 35 ppm | Internal combustion engines, primarily gasoline-powered motor vehicles. |
| | 8 hours | 9.0 ppm | 9 ppm | |
| Nitrogen Dioxide ($NO_2$) | Annual Average | 0.030 ppm | 0.053 ppm | Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads. |
| | 1 hour | 0.18 ppm | 0.100 ppm | |
| Sulfur Dioxide ($SO_2$) | 1 hour | 0.25 ppm | 0.075 ppm | Fuel combustion, chemical plants, sulfur recovery plants, and metal processing. |
| | 24 hours | 0.04 ppm | * | |
| Suspended Particulate Matter ($PM_{10}$) | Annual Arithmetic Mean | 20 $\mu g/m^3$ | * | Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays). |
| | 24 hours | 50 $\mu g/m^3$ | 150 $\mu g/m^3$ | |
| Suspended Particulate Matter ($PM_{2.5}$) | Annual Arithmetic Mean | 12 $\mu g/m^3$ | 15 $\mu g/m^3$ | Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays). |
| | 24 hours | * | 35 $\mu g/m^3$ | |
| Lead (Pb) | Monthly | 1.5 $\mu g/m^3$ | * | Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline. |
| | Quarterly | * | 1.5 $\mu g/m^3$ | |
| | 3-Month Average | * | 0.15 $\mu g/m^3$ | |
| Sulfates ($SO_4$) | 24 hours | 25 $\mu g/m^3$ | * | Industrial processes. |

Source: CARB 2010
ppm: parts per million; $\mu g/m^3$: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.

### *Air Quality Management Planning*

The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the SoCAB. Since 1979, a number of AQMPs have been prepared.

The most recent adopted comprehensive plan is the 2007 AQMP, which was adopted on June 1, 2007, and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP proposes attainment demonstration of the federal $PM_{2.5}$ standards through a more focused control of $SO_X$, directly emitted $PM_{2.5}$, and focused control of $NO_X$ and VOC by 2015. The eight-hour ozone control strategy builds upon the $PM_{2.5}$ strategy, augmented with additional $NO_X$ and VOC

reductions to meet the standard by 2024, assuming a bump-up (i.e., extended attainment date) is obtained.

The AQMP provides local guidance for the State Implementation Plan, which provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Severity classifications for ozone nonattainment range in magnitude: marginal, moderate, serious, severe, and extreme. The attainment status for the SoCAB is included in Table 2.

The SoCAB is also designated as attainment of the CAAQS for $SO_2$ and sulfates. According to the 2007 AQMP, the SoCAB will have to meet the new federal $PM_{2.5}$ standards by 2015 and the 8-hour ozone standard by 2024, and will most likely have to achieve the recently revised 24-hour $PM_{2.5}$ standard by 2020. The SCAQMD has recently designated the SoCAB as nonattainment for $NO_2$ (entire basin) under the CAAQS, lead (Los Angeles County only)[1] under the CAAQS and NAAQS, and has requested to designated the SoCAB as attainment/maintenance for $PM_{10}$ under the NAAQS (CARB 2011).

***Table 2***
***Attainment Status of Criteria Pollutants in the South Coast Air Basin***

| *Pollutant* | *State* | *Federal* |
|---|---|---|
| Ozone – 1-hour | Extreme Nonattainment | Extreme Nonattainment[1] |
| Ozone – 8-hour | Extreme Nonattainment | Severe-17 Nonattainment[2] |
| $PM_{10}$ | Serious Nonattainment | Serious Nonattainment[3] |
| $PM_{2.5}$ | Nonattainment | Nonattainment |
| CO | Attainment | Attainment[4] |
| $NO_2$ | Nonattainment[5] | Attainment/Maintenance |
| $SO_2$ | Attainment | Attainment |
| Lead | Nonattainment[6] | Nonattainment[6] |
| All others | Attainment/Unclassified | Attainment/Unclassified |

Source: CARB 2011.
[1] Under prior standard.
[2] SCAQMD may petition for Extreme Nonattainment designation.
[3] Annual Standard Revoked September 2006. SCAQMD submitted a request to redesignate the SoCAB from serious nonattainment for $PM_{10}$ to attainment for $PM_{10}$ in October 2009 because the SoCAB has not violated federal 24-hour $PM_{10}$ standards during the period from 2004 to 2007.
[4] The USEPA granted the request to redesignate the SoCAB from nonattainment to attainment for the CO NAAQS on May 11, 2007 (Federal Register Volume 71, No. 91), which became effective as of June 11, 2007.
[5] The state $NO_2$ standard was strengthened in 2007 from 0.25 ppm to 0.18 ppm. Under the revised standards, the entire SoCAB was designated as nonattainment on March 25, 2010. In addition, the USEPA adopted a new 1-hour $NO_2$ standard of 0.100 ppm on January 22, 2010.
[6] The Los Angeles County portion of the SoCAB was designated as nonattainment for lead under the new NAAQS and existing CAAQS as a result of large industrial emitters. Remaining areas within the SoCAB are unclassified. (March 25, 2010)

### *Existing Ambient Air Quality*

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements made by the SCAQMD. The project site is in Source Receptor Area (SRA) 19 –Saddleback Valley (Inland Orange County). The air quality monitoring station in SRA 19

[1] Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce, Quemetco, Inc. in the City of Industry, Trojan Battery Company in Santa Fe Springs, and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 identify that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2010).

is the Mission Viejo Monitoring Station which is located in 26081 Via Pera, approximately two miles southeast of the project site. Because this station does not monitor $SO_2$, data from the Costa Mesa Monitoring Station was obtained. Data from these stations are summarized in Table 3. The data show recurring violations of both the state and federal $O_3$ standards. The data also indicate that the area has exceeded the state $PM_{10}$ and federal $PM_{2.5}$ AAQS once in the last three years. The CO, $SO_2$, and $NO_2$ standards have not been violated in the last five years at this station.

***Table 3***
***Ambient Air Quality Monitoring Summary***

| *Pollutant/Standard* | *Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations* | | |
|---|---|---|---|
| | *2008* | *2009* | *2010* |
| **Ozone ($O_3$)[1]** | | | |
| State 1-Hour ≥ 0.09 ppm | 9 | 7 | 2 |
| State 8-hour ≥ 0.07 ppm | 25 | 14 | 2 |
| Federal 8-Hour > 0.075 ppm | 15 | 10 | 2 |
| Max. 1-Hour Conc. (ppm) | 0.118 | 0.121 | 0.117 |
| Max. 8-Hour Conc. (ppm) | 0.104 | 0.095 | 0.082 |
| **Carbon Monoxide (CO)[1]** | | | |
| State 8-Hour > 9.0 ppm | 0 | 0 | 0 |
| Federal 8-Hour ≥ 9.0 ppm | 0 | 0 | 0 |
| Max. 8-Hour Conc. (ppm) | 1.10 | 1.00 | 0.90 |
| **Nitrogen Dioxide ($NO_2$)[2]** | | | |
| State 1-Hour ≥ 0.18 ppm | 0 | 0 | 0 |
| Max. 1-Hour Conc. (ppm) | 0.081 | 0.065 | 0.070 |
| **Sulfur Dioxide ($SO_2$)[2]** | | | |
| State 1-Hour ≥ 0.04 ppm | 0 | 0 | 0 |
| Max. 1-Hour Conc. (ppm) | 0.003 | 0.004 | 0.002 |
| **Coarse Particulates ($PM_{10}$)[1]** | | | |
| State 24-Hour > 50 $\mu g/m^3$ | 0 | 1 | 0 |
| Federal 24-Hour > 150 $\mu g/m^3$ | 0 | 0 | 0 |
| Max. 24-Hour Conc. ($\mu g/m^3$) | 42.0 | 56.0 | 34.0 |
| **Fine Particulates ($PM_{2.5}$)[1]** | | | |
| Federal 24-Hour > 35 $\mu g/m^3$ | 0 | 1 | 0 |
| Max. 24-Hour Conc. ($\mu g/m^3$) | 32.6 | 39.2 | 19.9 |

Source: CARB 2012.
ppm: parts per million; $\mu g/m^3$: or micrograms per cubic meter.
[1] Data obtained from the Mission Viejo Monitoring Station.
[2] Data obtained from the Costa Mesa Monitoring Station.

### *Sensitive Receptors*

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors can include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of

recreation. Generally, industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

### *METHODOLOGY*

Projected construction- and operation-related air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod) distributed by the SCAQMD. CalEEMod compiles an emissions inventory of construction, area, energy (natural gas and purchased energy), water, waste, and vehicle emissions sources. The calculated emissions of the project are compared to thresholds of significance for individual projects using the SCAQMD's *CEQA Air Quality Analysis Guidance Handbook*.

### *THRESHOLDS OF SIGNIFICANCE*

CEQA allows for the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. The SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation. In addition to the daily thresholds listed above, projects are also subject to the AAQS. These are addressed through an analysis of localized significance thresholds (LSTs).

#### *Regional Significance Thresholds*

The SCAQMD has adopted regional construction and operational emissions thresholds to determine project-specific and cumulative impacts on air quality within the SoCAB, as shown in Table 4.

***Table 4***
***SCAQMD Regional Significance Thresholds***

| *Air Pollutant* | *Construction Phase* | *Operational Phase* |
|---|---|---|
| Volatile Organic Gases (VOC) | 75 lbs/day | 55 lbs/day |
| Carbon Monoxide (CO) | 550 lbs/day | 550 lbs/day |
| Nitrogen Oxides ($NO_X$) | 100 lbs/day | 55 lbs/day |
| Sulfur Oxides ($SO_X$) | 150 lbs/day | 150 lbs/day |
| Coarse Inhalable Particulates ($PM_{10}$) | 150 lbs/day | 150 lbs/day |
| Fine Inhalable Particulates ($PM_{2.5}$) | 55 lbs/day | 55 lbs/day |

#### *CO Hotspot Analysis*

The significance of localized project impacts depends on whether the project would cause substantial concentrations of CO. The 1993 CEQA Air Quality Handbook includes methodology to conduct localized CO modeling for traffic generated by a project. At the time of the 1993 Handbook, the SoCAB was designated as nonattainment under the CAAQS and NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined. In 2007, the SCAQMD was designated as in attainment for CO under both the CAAQS and NAAQS.

As identified within SCAQMD's 2003 Air Quality Management Plan (2003 AQMP) and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB were a result of unusual meteorological and topographical conditions, and not a result of congestion at a particular intersection. A CO hot spot analysis was conducted for four busy intersections

in Los Angeles[2] at the peak morning and afternoon time periods and did not predict a violation of CO standards. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2011). Therefore, the potential for CO hotspots to be generated in the SoCAB is extremely unlikely because of the improvements in vehicle emission rates and control efficiencies. Typical projects would not expose sensitive receptors to substantial pollutant concentrations and analysis of CO hotspots is not warranted.

***Localized Significance Thresholds***

The SCAQMD developed LSTs for emissions of $NO_2$, CO, $PM_{10}$, and $PM_{2.5}$ generated at the project site (off-site mobile-source emissions are not included the LST analysis). LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS. LSTs are based on the ambient concentrations of that pollutant within the project air pollutant monitoring station area, or source receptor area (SRA) and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects of five acres and less; however, it can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required. Based on the equipment use during maintenance in CalEEMod, the project would disturb approximately 4.5-acres per day (SCAQMD 2011).

[2] The four intersections include: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day which had a level of service (LOS) of E in the morning peak hour and LOS F in the evening peak hour.

## *GREENHOUSE GAS EMISSIONS*

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as greenhouse gases (GHGs) to the atmosphere. The primary source of these GHG is from fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor, carbon ($CO_2$), methane ($CH_4$), and ozone ($O_3$)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming effect to a lesser extent include nitrous oxide ($N_2O$), sulfur hexafluoride ($SF_6$), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.

### *REGULATORY SETTINGS*

#### *Regulation of GHG Emissions on a National Level*

On April 17, 2009, the USEPA declared $CO_2$ a threat to public health and welfare, which is the first step towards development of AAQS standards for this air pollutant. However, there are no adopted regulations to combat global climate change on a national level.

#### *Regulation of GHG Emissions on a State Level*

#### Assembly Bill 32

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32, the Global Warming Solutions Act, and Executive Order S-03-05.

AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-3-05, signed June 1, 2005. The Executive Order S-03-05 set the following GHG reduction targets for the State:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

AB 32 directed CARB to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. Based on the GHG emissions inventory conducted for the Scoping Plan by CARB, it is projected that GHG emissions in California by 2020 will be approximately 596 million metric tons (MMTons) of $CO_{2e}$ by 2020 (CARB 2008). In December 2007, CARB approved a 2020 emissions limit of 427 MMTons (471 million tons) of $CO_{2e}$ for the state (CARB 2008). The 2020 target requires emissions reductions of 169 MMTons, 28.5 percent of the projected emissions compared to business-as-usual (BAU) in year 2020 (i.e., 28.5 percent of 596 MMTons) (CARB 2008). CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical in 2002 through 2004.

In order to effectively implement the cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor global warming emissions levels for large stationary sources that generate more than 25,000 metric tons (MTons) per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012. The

Climate Action Registry Reporting Online Tool was established through the Climate Action Registry to track GHG emissions. In June 2008, CARB released a draft of the Climate Change Scoping Plan, which was revised in October 2008. The final Scoping Plan was adopted by CARB on December 11, 2008. Key elements of CARB's GHG reduction plan are:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.

- Achieving a statewide renewables energy mix of 33 percent.

- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system.

- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.

- Adopting and implementing measures pursuant to state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard

- Creating target fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation.

Table 5 shows the proposed reductions from regulations and programs outlined in the Scoping Plan. While local government operations were not accounted for in achieving the 2020 emissions reduction, they are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of GHG. In recognition of the critical role local governments will play in successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of today's levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target. Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer vehicle miles traveled.

***Table 5***
***Scoping Plan Greenhouse Gas Reduction Measures and Reductions toward 2020 Target***

| *Recommended Reduction Measures* | *Reductions Counted toward 2020 Target of 169 MMT $CO_{2e}$* | *Percentage of Statewide 2020 Target* |
|---|---|---|
| **Cap and Trade Program and Associated Measures** | | |
| California Light-Duty Vehicle GHG Standards | 31.7 | 19% |
| Energy Efficiency | 26.3 | 16% |
| Renewable Portfolio Standard (33 percent by 2020) | 21.3 | 13% |
| Low Carbon Fuel Standard | 15 | 9% |
| Regional Transportation-Related GHG Targets[1] | 5 | 3% |
| Vehicle Efficiency Measures | 4.5 | 3% |
| Goods Movement | 3.7 | 2% |
| Million Solar Roofs | 2.1 | 1% |
| Medium/Heavy Duty Vehicles | 1.4 | 1% |
| High Speed Rail | 1.0 | 1% |
| Industrial Measures | 0.3 | 0% |
| Additional Reduction Necessary to Achieve Cap | 34.4 | 20% |
| **Total Cap and Trade Program Reductions** | **146.7** | **87%** |
| **Uncapped Sources/Sectors Measures** | | |
| High Global Warming Potential Gas Measures | 20.2 | 12% |
| Sustainable Forests | 5 | 3% |
| Industrial Measures (for sources not covered under cap and trade program) | 1.1 | 1% |
| Recycling and Waste (landfill methane capture) | 1 | 1% |
| **Total Uncapped Sources/Sectors Reductions** | **27.3** | **16%** |
| **Total Reductions Counted toward 2020 Target** | **174** | **100%** |
| **Other Recommended Measures – Not Counted toward 2020 Target** | | |
| State Government Operations | 1.0 to 2.0 | 1% |
| Local Government Operations | To Be Determined[2] | NA |
| Green Buildings | 26 | 15% |
| Recycling and Waste | 9 | 5% |
| Water Sector Measures | 4.8 | 3% |
| Methane Capture at Large Dairies | 1 | 1% |
| **Total Other Recommended Measures – Not Counted toward 2020 Target** | **42.8** | **NA** |

Source: CARB 2008. Note: the percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 MMTons and the Scoping Plan identifies 174 MMTons of emissions reductions strategies.

$MMTCO_{2e}$: million metric tons of $CO_{2e}$

[1] Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.

[2] According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of $CO_{2e}$ (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 target.

### *Regulation of GHG Emissions on a Regional Level*

In 2008, SB 375 was adopted and was intended to represent the implementation mechanism necessary to achieve the GHG emissions reductions targets established in the Scoping Plan for the transportation sector as it relates to local land use decisions that affect travel behavior. Implementation is intended to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations with local land use planning to reduce vehicle miles traveled and vehicle trips. Specifically, SB 375 requires CARB to establish GHG emissions reduction targets for each of the 17 regions in

California managed by a metropolitan planning organization (MPO). Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per-capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG is the MPO for the southern California region, which includes the counties of Los Angeles, Orange, San Bernardino County, Riverside, Ventura, and Imperial. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035.

The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's existing transportation network. The proposed targets would result in 3 MMTons of GHG reductions by 2020 and 15 MMTons of GHG reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

SB 375 requires the MPOs to prepare a Sustainable Communities Strategy (SCS) in their regional transportation plan. For the SCAG region, the Draft SCS was released in December 2011 and is anticipated to be adopted by April 2012 (by). The SCS will set forth a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency for governments and developers. If the SCS is unable to achieve the regional GHG emissions reduction targets, the MPO is required to prepare an Alternative Planning Strategy that shows how the GHG emissions reduction target could be achieved through other development patterns, infrastructure, and/or transportation measures.

### *THRESHOLDS OF SIGNIFICANCE*

#### *South Coast Air Quality Management District*

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;

3. The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions[3].

[3] The Governor's Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

***South Coast Air Quality Management District***

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency:

Tier 1 If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

Tier 2 If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD is proposing a screening-level threshold of 3,000 MTons annually for all land use types or the following land-use-specific thresholds: 1,400 MTons for commercial projects, 3,500 MTons for residential projects, or 3,000 MTons for mixed-use projects. This bright-line threshold is based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions:

Tier 3 If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

Tier 4 If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

SCAQMD is proposing to adopt an efficiency target for projects that exceed the screening threshold. The current recommended approach is per capita efficiency targets. SCAQMD is not recommending use of a percent emissions reduction target. Instead, SCAQMD proposes a 2020 efficiency target of 4.8 MTons per year per service population (MTons/year/SP) for project-level analyses and 6.6 MTons/year/SP for plan level projects (e.g., program-level projects such as specific plans and general plans).[4] If projects exceed these per capita efficiency targets, GHG emissions would be considered potentially significant in the absence of mitigation measures.

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[4] It should be noted that the Working Group also considered efficiency targets for 2035 for the first time in this Working Group meeting.

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# Pinnacle at Serrano Heights

**Orange County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Other Asphalt Surfaces | 2.6 | Acre |
| Single Family Housing | 85 | Dwelling Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Southern California Edison |
| **Climate Zone** | 8 | **Precipitation Freq (Days)** | 30 | | |

### 1.3 User Entered Comments

Project Characteristics -

Land Use - Total homes' area = 302,877 SF
Total on-site paving that overlaps critical period = 114TSF=2.6Ac.
Total site gros ara = 24.6 AC

Construction Phase - According to construction schedule provided.

Off-road Equipment - Load factors per OFFROAD 2011

Off-road Equipment - per construction info provided

Off-road Equipment - Per info provided. Includes

Off-road Equipment - per info provided

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided.

Grading - Material exported = vegetation to be removed from site.

Woodstoves - No woodstoves, or woodmass

Construction Off-road Equipment Mitigation -

Area Mitigation - NG hearth only

Water Mitigation -

Off-road Equipment - Construction info provided

Off-road Equipment - Per construction info provided

Trips and VMT - Water trucks for Grading, Paving and Utilities/Underground

Water And Wastewater - 100% aerobic

## 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 | | | | | |
| 2013 | 0.54 | 4.11 | 2.38 | 0.00 | 0.51 | 0.21 | 0.72 | 0.23 | 0.21 | 0.43 | 0.00 | 426.18 | 426.18 | 0.04 | 0.00 | 427.09 |
| 2014 | 1.47 | 1.71 | 1.45 | 0.00 | 0.06 | 0.10 | 0.16 | 0.00 | 0.10 | 0.10 | 0.00 | 236.79 | 236.79 | 0.02 | 0.00 | 237.28 |
| **Total** | **2.01** | **5.82** | **3.83** | **0.00** | **0.57** | **0.31** | **0.88** | **0.23** | **0.31** | **0.53** | **0.00** | **662.97** | **662.97** | **0.06** | **0.00** | **664.37** |

### 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 | | | | | |
| 2013 | 0.54 | 4.11 | 2.38 | 0.00 | 0.24 | 0.21 | 0.44 | 0.10 | 0.21 | 0.30 | 0.00 | 426.18 | 426.18 | 0.04 | 0.00 | 427.09 |
| 2014 | 1.47 | 1.71 | 1.45 | 0.00 | 0.05 | 0.10 | 0.15 | 0.00 | 0.10 | 0.10 | 0.00 | 236.79 | 236.79 | 0.02 | 0.00 | 237.28 |
| **Total** | **2.01** | **5.82** | **3.83** | **0.00** | **0.29** | **0.31** | **0.59** | **0.10** | **0.31** | **0.40** | **0.00** | **662.97** | **662.97** | **0.06** | **0.00** | **664.37** |

## 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 | 1.26 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| Energy | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 351.36 | 351.36 | 0.01 | 0.01 | 353.52 |
| Mobile | 0.76 | 1.48 | 7.83 | 0.01 | 1.47 | 0.07 | 1.54 | 0.05 | 0.07 | 0.12 | 0.00 | 1,241.97 | 1,241.97 | 0.05 | 0.00 | 1,243.05 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 20.22 | 0.00 | 20.22 | 1.20 | 0.00 | 45.32 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 32.26 | 32.26 | 0.13 | 0.01 | 36.53 |
| **Total** | **2.04** | **1.67** | **9.23** | **0.01** | **1.47** | **0.07** | **1.56** | **0.05** | **0.07** | **0.14** | **20.22** | **1,627.70** | **1,647.92** | **1.39** | **0.02** | **1,680.58** |

## 2.2 Overall Operational

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 1.26 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| Energy | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 351.36 | 351.36 | 0.01 | 0.01 | 353.52 |
| Mobile | 0.76 | 1.48 | 7.83 | 0.01 | 1.47 | 0.07 | 1.54 | 0.05 | 0.07 | 0.12 | 0.00 | 1,241.97 | 1,241.97 | 0.05 | 0.00 | 1,243.05 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 20.22 | 0.00 | 20.22 | 1.20 | 0.00 | 45.32 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 27.37 | 27.37 | 0.10 | 0.00 | 30.80 |
| **Total** | **2.04** | **1.67** | **9.23** | **0.01** | **1.47** | **0.07** | **1.56** | **0.05** | **0.07** | **0.14** | **20.22** | **1,622.81** | **1,643.03** | **1.36** | **0.01** | **1,674.85** |

# 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Paving OffSite - 2013

### 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 | 0.07 | 0.46 | 0.29 | 0.00 | | 0.04 | 0.04 | | 0.04 | 0.04 | 0.00 | 39.26 | 39.26 | 0.01 | 0.00 | 39.38 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.07** | **0.46** | **0.29** | **0.00** | | **0.04** | **0.04** | | **0.04** | **0.04** | **0.00** | **39.26** | **39.26** | **0.01** | **0.00** | **39.38** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 0.00 | 1.10 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.09 | 3.09 | 0.00 | 0.00 | 3.09 |
| **Total** | **0.00** | **0.01** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **4.19** | **4.19** | **0.00** | **0.00** | **4.19** |

## 3.2 Paving OffSite - 2013

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.07 | 0.46 | 0.29 | 0.00 | | 0.04 | 0.04 | | 0.04 | 0.04 | 0.00 | 39.26 | 39.26 | 0.01 | 0.00 | 39.38 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.07** | **0.46** | **0.29** | **0.00** | | **0.04** | **0.04** | | **0.04** | **0.04** | **0.00** | **39.26** | **39.26** | **0.01** | **0.00** | **39.38** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.10 | 1.10 | 0.00 | 0.00 | 1.10 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.09 | 3.09 | 0.00 | 0.00 | 3.09 |
| **Total** | **0.00** | **0.01** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **4.19** | **4.19** | **0.00** | **0.00** | **4.19** |

## 3.3 Site Preparation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

### 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 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.47 | 1.47 | 0.00 | 0.00 | 1.47 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.47** | **1.47** | **0.00** | **0.00** | **1.47** |

## 3.3 Site Preparation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

### 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 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.47 | 1.47 | 0.00 | 0.00 | 1.47 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.47** | **1.47** | **0.00** | **0.00** | **1.47** |

## 3.4 Grading - 2013

### 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 | | | | | 0.48 | 0.00 | 0.48 | 0.22 | 0.00 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.27 | 2.40 | 1.14 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 236.76 | 236.76 | 0.02 | 0.00 | 237.22 |
| **Total** | **0.27** | **2.40** | **1.14** | **0.00** | **0.48** | **0.10** | **0.58** | **0.22** | **0.10** | **0.32** | **0.00** | **236.76** | **236.76** | **0.02** | **0.00** | **237.22** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.58 | 1.58 | 0.00 | 0.00 | 1.59 |
| Worker | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 5.14 | 5.14 | 0.00 | 0.00 | 5.15 |
| **Total** | **0.00** | **0.01** | **0.04** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.72** | **6.72** | **0.00** | **0.00** | **6.74** |

## 3.4 Grading - 2013

### 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 | | | | | 0.20 | 0.00 | 0.20 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.27 | 2.40 | 1.14 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 236.76 | 236.76 | 0.02 | 0.00 | 237.22 |
| **Total** | **0.27** | **2.40** | **1.14** | **0.00** | **0.20** | **0.10** | **0.30** | **0.10** | **0.10** | **0.20** | **0.00** | **236.76** | **236.76** | **0.02** | **0.00** | **237.22** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.58 | 1.58 | 0.00 | 0.00 | 1.59 |
| Worker | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 5.14 | 5.14 | 0.00 | 0.00 | 5.15 |
| **Total** | **0.00** | **0.01** | **0.04** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.72** | **6.72** | **0.00** | **0.00** | **6.74** |

## 3.5 Utilities and Underground - 2013

### 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 | 0.06 | 0.49 | 0.30 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 47.23 | 47.23 | 0.01 | 0.00 | 47.33 |
| **Total** | **0.06** | **0.49** | **0.30** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **47.23** | **47.23** | **0.01** | **0.00** | **47.33** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.46 | 1.46 | 0.00 | 0.00 | 1.46 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.53 | 2.53 | 0.00 | 0.00 | 2.54 |
| **Total** | **0.00** | **0.01** | **0.03** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **3.99** | **3.99** | **0.00** | **0.00** | **4.00** |

## 3.5 Utilities and Underground - 2013

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.06 | 0.49 | 0.30 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 47.23 | 47.23 | 0.01 | 0.00 | 47.33 |
| **Total** | **0.06** | **0.49** | **0.30** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **47.23** | **47.23** | **0.01** | **0.00** | **47.33** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.46 | 1.46 | 0.00 | 0.00 | 1.46 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.53 | 2.53 | 0.00 | 0.00 | 2.54 |
| **Total** | **0.00** | **0.01** | **0.03** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **3.99** | **3.99** | **0.00** | **0.00** | **4.00** |

## 3.6 Building Construction - 2013

### 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 | 0.08 | 0.47 | 0.32 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 50.29 | 50.29 | 0.01 | 0.00 | 50.42 |
| **Total** | **0.08** | **0.47** | **0.32** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **50.29** | **50.29** | **0.01** | **0.00** | **50.42** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.80 | 6.80 | 0.00 | 0.00 | 6.81 |
| Worker | 0.01 | 0.01 | 0.06 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 10.14 | 10.14 | 0.00 | 0.00 | 10.15 |
| **Total** | **0.01** | **0.05** | **0.09** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **16.94** | **16.94** | **0.00** | **0.00** | **16.96** |

## 3.6 Building Construction - 2013

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.08 | 0.47 | 0.32 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 50.29 | 50.29 | 0.01 | 0.00 | 50.42 |
| **Total** | **0.08** | **0.47** | **0.32** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **50.29** | **50.29** | **0.01** | **0.00** | **50.42** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.80 | 6.80 | 0.00 | 0.00 | 6.81 |
| Worker | 0.01 | 0.01 | 0.06 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 10.14 | 10.14 | 0.00 | 0.00 | 10.15 |
| **Total** | **0.01** | **0.05** | **0.09** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **16.94** | **16.94** | **0.00** | **0.00** | **16.96** |

## 3.6 Building Construction - 2014

### 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 | 0.22 | 1.39 | 1.02 | 0.00 | | 0.08 | 0.08 | | 0.08 | 0.08 | 0.00 | 160.60 | 160.60 | 0.02 | 0.00 | 160.99 |
| **Total** | **0.22** | **1.39** | **1.02** | **0.00** | | **0.08** | **0.08** | | **0.08** | **0.08** | **0.00** | **160.60** | **160.60** | **0.02** | **0.00** | **160.99** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.01 | 0.12 | 0.09 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 21.80 | 21.80 | 0.00 | 0.00 | 21.81 |
| Worker | 0.02 | 0.02 | 0.18 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 31.76 | 31.76 | 0.00 | 0.00 | 31.79 |
| **Total** | **0.03** | **0.14** | **0.27** | **0.00** | **0.05** | **0.00** | **0.05** | **0.00** | **0.00** | **0.00** | **0.00** | **53.56** | **53.56** | **0.00** | **0.00** | **53.60** |

## 3.6 Building Construction - 2014

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.22 | 1.39 | 1.02 | 0.00 | | 0.08 | 0.08 | | 0.08 | 0.08 | 0.00 | 160.60 | 160.60 | 0.02 | 0.00 | 160.99 |
| **Total** | **0.22** | **1.39** | **1.02** | **0.00** | | **0.08** | **0.08** | | **0.08** | **0.08** | **0.00** | **160.60** | **160.60** | **0.02** | **0.00** | **160.99** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.01 | 0.12 | 0.09 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 21.80 | 21.80 | 0.00 | 0.00 | 21.81 |
| Worker | 0.02 | 0.02 | 0.18 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 31.76 | 31.76 | 0.00 | 0.00 | 31.79 |
| **Total** | **0.03** | **0.14** | **0.27** | **0.00** | **0.05** | **0.00** | **0.05** | **0.00** | **0.00** | **0.00** | **0.00** | **53.56** | **53.56** | **0.00** | **0.00** | **53.60** |

## 3.7 Paving OnSite - 2013

### 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 | 0.03 | 0.20 | 0.13 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 17.45 | 17.45 | 0.00 | 0.00 | 17.50 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.03** | **0.20** | **0.13** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **17.45** | **17.45** | **0.00** | **0.00** | **17.50** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.49 | 0.49 | 0.00 | 0.00 | 0.49 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.37 | 1.37 | 0.00 | 0.00 | 1.37 |
| **Total** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.86** | **1.86** | **0.00** | **0.00** | **1.86** |

## 3.7 Paving OnSite - 2013

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.03 | 0.20 | 0.13 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 17.45 | 17.45 | 0.00 | 0.00 | 17.50 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.03** | **0.20** | **0.13** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **17.45** | **17.45** | **0.00** | **0.00** | **17.50** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.49 | 0.49 | 0.00 | 0.00 | 0.49 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.37 | 1.37 | 0.00 | 0.00 | 1.37 |
| **Total** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.86** | **1.86** | **0.00** | **0.00** | **1.86** |

## 3.8 Architectural Coating - 2014

### 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 | 1.18 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.03 | 0.18 | 0.12 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 16.58 | 16.58 | 0.00 | 0.00 | 16.63 |
| **Total** | **1.21** | **0.18** | **0.12** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **16.58** | **16.58** | **0.00** | **0.00** | **16.63** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 6.05 | 6.05 | 0.00 | 0.00 | 6.06 |
| **Total** | **0.00** | **0.00** | **0.03** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.05** | **6.05** | **0.00** | **0.00** | **6.06** |

## 3.8 Architectural Coating - 2014

### 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 | 1.18 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.03 | 0.18 | 0.12 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 16.58 | 16.58 | 0.00 | 0.00 | 16.63 |
| **Total** | **1.21** | **0.18** | **0.12** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **16.58** | **16.58** | **0.00** | **0.00** | **16.63** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 6.05 | 6.05 | 0.00 | 0.00 | 6.06 |
| **Total** | **0.00** | **0.00** | **0.03** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.05** | **6.05** | **0.00** | **0.00** | **6.06** |

# 4.0 Mobile Detail

## 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 | 0.76 | 1.48 | 7.83 | 0.01 | 1.47 | 0.07 | 1.54 | 0.05 | 0.07 | 0.12 | 0.00 | 1,241.97 | 1,241.97 | 0.05 | 0.00 | 1,243.05 |
| Unmitigated | 0.76 | 1.48 | 7.83 | 0.01 | 1.47 | 0.07 | 1.54 | 0.05 | 0.07 | 0.12 | 0.00 | 1,241.97 | 1,241.97 | 0.05 | 0.00 | 1,243.05 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Single Family Housing | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |
| Total | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| 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 |
| Other Asphalt Surfaces | 8.90 | 13.30 | 7.40 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 12.70 | 7.00 | 9.50 | 40.20 | 19.20 | 40.60 |

## 5.0 Energy Detail

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 159.55 | 159.55 | 0.01 | 0.00 | 160.55 |
| Electricity Unmitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 159.55 | 159.55 | 0.01 | 0.00 | 160.55 |
| NaturalGas Mitigated | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 191.80 | 191.80 | 0.00 | 0.00 | 192.97 |
| NaturalGas Unmitigated | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 191.80 | 191.80 | 0.00 | 0.00 | 192.97 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 3.59426e+006 | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 191.80 | 191.80 | 0.00 | 0.00 | 192.97 |
| **Total** | | **0.02** | **0.17** | **0.07** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **191.80** | **191.80** | **0.00** | **0.00** | **192.97** |

### 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 | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 3.59426e+006 | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 191.80 | 191.80 | 0.00 | 0.00 | 192.97 |
| **Total** | | **0.02** | **0.17** | **0.07** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **191.80** | **191.80** | **0.00** | **0.00** | **192.97** |

## 5.3 Energy by Land Use - Electricity

### Unmitigated

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 548536 | | | | | 159.55 | 0.01 | 0.00 | 160.55 |
| **Total** | | | | | | **159.55** | **0.01** | **0.00** | **160.55** |

### Mitigated

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 548536 | | | | | 159.55 | 0.01 | 0.00 | 160.55 |
| **Total** | | | | | | **159.55** | **0.01** | **0.00** | **160.55** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

Use only Natural Gas Hearths

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 1.26 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| Unmitigated | 1.26 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.12 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 1.09 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.04 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| **Total** | **1.25** | **0.02** | **1.33** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **2.11** | **2.11** | **0.00** | **0.00** | **2.16** |

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.12 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 1.09 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.04 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| **Total** | **1.25** | **0.02** | **1.33** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **2.11** | **2.11** | **0.00** | **0.00** | **2.16** |

# 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

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 27.37 | 0.10 | 0.00 | 30.80 |
| Unmitigated | | | | | 32.26 | 0.13 | 0.01 | 36.53 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 7.2 Water by Land Use

### Unmitigated

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 5.53809 / 3.49141 | | | | | 32.26 | 0.13 | 0.01 | 36.53 |
| **Total** | | | | | | **32.26** | **0.13** | **0.01** | **36.53** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 4.43047 / 3.27843 | | | | | 27.37 | 0.10 | 0.00 | 30.80 |
| **Total** | | | | | | **27.37** | **0.10** | **0.00** | **30.80** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 20.22 | 1.20 | 0.00 | 45.32 |
| Unmitigated | | | | | 20.22 | 1.20 | 0.00 | 45.32 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 8.2 Waste by Land Use

### Unmitigated

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 99.63 | | | | | 20.22 | 1.20 | 0.00 | 45.32 |
| **Total** | | | | | | **20.22** | **1.20** | **0.00** | **45.32** |

### Mitigated

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 99.63 | | | | | 20.22 | 1.20 | 0.00 | 45.32 |
| **Total** | | | | | | **20.22** | **1.20** | **0.00** | **45.32** |

## 9.0 Vegetation

# Pinnacle at Serrano Heights

**Orange County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Other Asphalt Surfaces | 2.6 | Acre |
| Single Family Housing | 85 | Dwelling Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Southern California Edison |
| **Climate Zone** | 8 | **Precipitation Freq (Days)** | 30 | | |

### 1.3 User Entered Comments

Project Characteristics -

Land Use - Total homes' area = 302,877 SF
Total on-site paving that overlaps critical period = 114TSF=2.6Ac.
Total site gros ara = 24.6 AC

Construction Phase - According to construction schedule provided.

Off-road Equipment - Load factors per OFFROAD 2011

Off-road Equipment - per construction info provided

Off-road Equipment - Per info provided. Includes

Off-road Equipment - per info provided

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided.

Grading - Material exported = vegetation to be removed from site.

Woodstoves - No woodstoves, or woodmass

Construction Off-road Equipment Mitigation -

Area Mitigation - NG hearth only

Water Mitigation -

Off-road Equipment - Construction info provided

Off-road Equipment - Per construction info provided

Trips and VMT - Water trucks for Grading, Paving and Utilities/Underground

Water And Wastewater - 100% aerobic

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 14.06 | 111.64 | 61.07 | 0.11 | 16.12 | 5.49 | 20.91 | 6.66 | 5.49 | 12.13 | 0.00 | 12,292.12 | 0.00 | 1.25 | 0.00 | 12,318.32 |
| 2014 | 15.01 | 17.35 | 14.67 | 0.03 | 0.65 | 1.01 | 1.67 | 0.03 | 1.01 | 1.04 | 0.00 | 2,661.14 | 0.00 | 0.26 | 0.00 | 2,666.56 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 14.06 | 111.64 | 61.07 | 0.11 | 7.58 | 5.49 | 12.37 | 2.87 | 5.49 | 8.34 | 0.00 | 12,292.12 | 0.00 | 1.25 | 0.00 | 12,318.32 |
| 2014 | 15.01 | 17.35 | 14.67 | 0.03 | 0.60 | 1.01 | 1.61 | 0.03 | 1.01 | 1.04 | 0.00 | 2,661.14 | 0.00 | 0.26 | 0.00 | 2,666.56 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Energy | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| Mobile | 4.40 | 8.61 | 45.90 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 8,276.17 | | 0.32 | | 8,282.95 |
| **Total** | **11.53** | **9.61** | **53.57** | **0.09** | **9.44** | **0.39** | **10.04** | **0.32** | **0.39** | **0.91** | **0.00** | **10,977.45** | | **0.38** | **0.05** | **11,000.88** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Energy | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| Mobile | 4.40 | 8.61 | 45.90 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 8,276.17 | | 0.32 | | 8,282.95 |
| **Total** | **11.53** | **9.61** | **53.57** | **0.09** | **9.44** | **0.39** | **10.04** | **0.32** | **0.39** | **0.91** | **0.00** | **10,977.45** | | **0.38** | **0.05** | **11,000.88** |

## 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Paving OffSite - 2013

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.15 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.26** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.2 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.07 | 0.08 | 0.87 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 158.22 | | 0.01 | | 158.41 |
| **Total** | **0.10** | **0.39** | **1.08** | **0.00** | **0.22** | **0.02** | **0.24** | **0.01** | **0.02** | **0.02** | | **212.10** | | **0.01** | | **212.32** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | 0.00 | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.15 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.26** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | **0.00** | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.2 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.07 | 0.08 | 0.87 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 158.22 | | 0.01 | | 158.41 |
| **Total** | **0.10** | **0.39** | **1.08** | **0.00** | **0.20** | **0.02** | **0.22** | **0.01** | **0.02** | **0.02** | | **212.10** | | **0.01** | | **212.32** |

## 3.3 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

## 3.3 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.40 | 4.03 | 2.46 | 0.01 | 0.95 | 0.16 | 1.12 | 0.02 | 0.16 | 0.19 | | 650.34 | | 0.02 | | 650.76 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.40** | **4.03** | **2.46** | **0.01** | **0.95** | **0.16** | **1.12** | **0.02** | **0.16** | **0.19** | | **650.34** | | **0.02** | | **650.76** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** |

## 3.3 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.40 | 4.03 | 2.46 | 0.01 | 0.87 | 0.16 | 1.03 | 0.02 | 0.16 | 0.19 | | 650.34 | | 0.02 | | 650.76 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.40** | **4.03** | **2.46** | **0.01** | **0.87** | **0.16** | **1.03** | **0.02** | **0.16** | **0.19** | | **650.34** | | **0.02** | | **650.76** |

## 3.4 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 14.70 | 0.00 | 14.70 | 6.62 | 0.00 | 6.62 | | | | | | 0.00 |
| Off-Road | 8.43 | 73.76 | 35.16 | 0.07 | | 3.01 | 3.01 | | 3.01 | 3.01 | | 8,032.34 | | 0.75 | | 8,048.16 |
| **Total** | **8.43** | **73.76** | **35.16** | **0.07** | **14.70** | **3.01** | **17.71** | **6.62** | **3.01** | **9.63** | | **8,032.34** | | **0.75** | | **8,048.16** |

## 3.4 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.09 | 0.09 | 1.00 | 0.00 | 0.23 | 0.01 | 0.24 | 0.01 | 0.01 | 0.02 | | 182.56 | | 0.01 | | 182.78 |
| **Total** | **0.12** | **0.40** | **1.21** | **0.00** | **0.25** | **0.02** | **0.27** | **0.01** | **0.02** | **0.03** | | **236.44** | | **0.01** | | **236.69** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.28 | 0.00 | 6.28 | 2.83 | 0.00 | 2.83 | | | | | | 0.00 |
| Off-Road | 8.43 | 73.76 | 35.16 | 0.07 | | 3.01 | 3.01 | | 3.01 | 3.01 | 0.00 | 8,032.34 | | 0.75 | | 8,048.16 |
| **Total** | **8.43** | **73.76** | **35.16** | **0.07** | **6.28** | **3.01** | **9.29** | **2.83** | **3.01** | **5.84** | **0.00** | **8,032.34** | | **0.75** | | **8,048.16** |

## 3.4 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.09 | 0.09 | 1.00 | 0.00 | 0.21 | 0.01 | 0.22 | 0.01 | 0.01 | 0.02 | | 182.56 | | 0.01 | | 182.78 |
| **Total** | **0.12** | **0.40** | **1.21** | **0.00** | **0.23** | **0.02** | **0.25** | **0.01** | **0.02** | **0.03** | | **236.44** | | **0.01** | | **236.69** |

## 3.5 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.08 | 16.41 | 10.00 | 0.02 | | 0.85 | 0.85 | | 0.85 | 0.85 | | 1,735.81 | | 0.19 | | 1,739.73 |
| **Total** | **2.08** | **16.41** | **10.00** | **0.02** | | **0.85** | **0.85** | | **0.85** | **0.85** | | **1,735.81** | | **0.19** | | **1,739.73** |

## 3.5 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.05 | 0.05 | 0.53 | 0.00 | 0.12 | 0.00 | 0.13 | 0.00 | 0.00 | 0.01 | | 97.37 | | 0.01 | | 97.48 |
| **Total** | **0.08** | **0.36** | **0.74** | **0.00** | **0.14** | **0.01** | **0.16** | **0.00** | **0.01** | **0.02** | | **151.25** | | **0.01** | | **151.39** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.08 | 16.41 | 10.00 | 0.02 | | 0.85 | 0.85 | | 0.85 | 0.85 | 0.00 | 1,735.81 | | 0.19 | | 1,739.73 |
| **Total** | **2.08** | **16.41** | **10.00** | **0.02** | | **0.85** | **0.85** | | **0.85** | **0.85** | **0.00** | **1,735.81** | | **0.19** | | **1,739.73** |

## 3.5 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.05 | 0.05 | 0.53 | 0.00 | 0.11 | 0.00 | 0.12 | 0.00 | 0.00 | 0.01 | | 97.37 | | 0.01 | | 97.48 |
| **Total** | **0.08** | **0.36** | **0.74** | **0.00** | **0.13** | **0.01** | **0.15** | **0.00** | **0.01** | **0.02** | | **151.25** | | **0.01** | | **151.39** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.50 | 15.16 | 10.46 | 0.02 | | 0.90 | 0.90 | | 0.90 | 0.90 | | 1,788.73 | | 0.22 | | 1,793.41 |
| **Total** | **2.50** | **15.16** | **10.46** | **0.02** | | **0.90** | **0.90** | | **0.90** | **0.90** | | **1,788.73** | | **0.22** | | **1,793.41** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.13 | 1.39 | 0.92 | 0.00 | 0.08 | 0.05 | 0.13 | 0.01 | 0.05 | 0.05 | | 242.47 | | 0.01 | | 242.61 |
| Worker | 0.18 | 0.18 | 2.07 | 0.00 | 0.48 | 0.01 | 0.49 | 0.02 | 0.01 | 0.03 | | 377.30 | | 0.02 | | 377.74 |
| **Total** | **0.31** | **1.57** | **2.99** | **0.00** | **0.56** | **0.06** | **0.62** | **0.03** | **0.06** | **0.08** | | **619.77** | | **0.03** | | **620.35** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.50 | 15.16 | 10.46 | 0.02 | | 0.90 | 0.90 | | 0.90 | 0.90 | 0.00 | 1,788.73 | | 0.22 | | 1,793.41 |
| **Total** | **2.50** | **15.16** | **10.46** | **0.02** | | **0.90** | **0.90** | | **0.90** | **0.90** | **0.00** | **1,788.73** | | **0.22** | | **1,793.41** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.13 | 1.39 | 0.92 | 0.00 | 0.08 | 0.05 | 0.12 | 0.01 | 0.05 | 0.05 | | 242.47 | | 0.01 | | 242.61 |
| Worker | 0.18 | 0.18 | 2.07 | 0.00 | 0.43 | 0.01 | 0.45 | 0.02 | 0.01 | 0.03 | | 377.30 | | 0.02 | | 377.74 |
| **Total** | **0.31** | **1.57** | **2.99** | **0.00** | **0.51** | **0.06** | **0.57** | **0.03** | **0.06** | **0.08** | | **619.77** | | **0.03** | | **620.35** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.26 | 14.04 | 10.27 | 0.02 | | 0.79 | 0.79 | | 0.79 | 0.79 | | 1,788.73 | | 0.20 | | 1,792.98 |
| **Total** | **2.26** | **14.04** | **10.27** | **0.02** | | **0.79** | **0.79** | | **0.79** | **0.79** | | **1,788.73** | | **0.20** | | **1,792.98** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.12 | 1.26 | 0.84 | 0.00 | 0.08 | 0.04 | 0.13 | 0.01 | 0.04 | 0.05 | | 243.37 | | 0.01 | | 243.49 |
| Worker | 0.17 | 0.17 | 1.91 | 0.00 | 0.48 | 0.02 | 0.49 | 0.02 | 0.02 | 0.03 | | 369.97 | | 0.02 | | 370.38 |
| **Total** | **0.29** | **1.43** | **2.75** | **0.00** | **0.56** | **0.06** | **0.62** | **0.03** | **0.06** | **0.08** | | **613.34** | | **0.03** | | **613.87** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.26 | 14.04 | 10.27 | 0.02 | | 0.79 | 0.79 | | 0.79 | 0.79 | 0.00 | 1,788.73 | | 0.20 | | 1,792.98 |
| **Total** | **2.26** | **14.04** | **10.27** | **0.02** | | **0.79** | **0.79** | | **0.79** | **0.79** | **0.00** | **1,788.73** | | **0.20** | | **1,792.98** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.12 | 1.26 | 0.84 | 0.00 | 0.08 | 0.04 | 0.12 | 0.01 | 0.04 | 0.05 | | 243.37 | | 0.01 | | 243.49 |
| Worker | 0.17 | 0.17 | 1.91 | 0.00 | 0.43 | 0.02 | 0.45 | 0.02 | 0.02 | 0.03 | | 369.97 | | 0.02 | | 370.38 |
| **Total** | **0.29** | **1.43** | **2.75** | **0.00** | **0.51** | **0.06** | **0.57** | **0.03** | **0.06** | **0.08** | | **613.34** | | **0.03** | | **613.87** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.34 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.45** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.07 | 0.08 | 0.87 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 158.22 | | 0.01 | | 158.41 |
| **Total** | **0.10** | **0.39** | **1.08** | **0.00** | **0.22** | **0.02** | **0.24** | **0.01** | **0.02** | **0.02** | | **212.10** | | **0.01** | | **212.32** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | 0.00 | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.34 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.45** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | **0.00** | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.07 | 0.08 | 0.87 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 158.22 | | 0.01 | | 158.41 |
| **Total** | **0.10** | **0.39** | **1.08** | **0.00** | **0.20** | **0.02** | **0.22** | **0.01** | **0.02** | **0.02** | | **212.10** | | **0.01** | | **212.32** |

## 3.8 Architectural Coating - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 12.14 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.30 | 1.85 | 1.28 | 0.00 | | 0.16 | 0.16 | | 0.16 | 0.16 | | 187.46 | | 0.03 | | 188.02 |
| **Total** | **12.44** | **1.85** | **1.28** | **0.00** | | **0.16** | **0.16** | | **0.16** | **0.16** | | **187.46** | | **0.03** | | **188.02** |

## 3.8 Architectural Coating - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.03 | 0.03 | 0.37 | 0.00 | 0.09 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | | 71.61 | | 0.00 | | 71.69 |
| **Total** | **0.03** | **0.03** | **0.37** | **0.00** | **0.09** | **0.00** | **0.10** | **0.00** | **0.00** | **0.01** | | **71.61** | | **0.00** | | **71.69** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 12.14 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.30 | 1.85 | 1.28 | 0.00 | | 0.16 | 0.16 | | 0.16 | 0.16 | 0.00 | 187.46 | | 0.03 | | 188.02 |
| **Total** | **12.44** | **1.85** | **1.28** | **0.00** | | **0.16** | **0.16** | | **0.16** | **0.16** | **0.00** | **187.46** | | **0.03** | | **188.02** |

### 3.8 Architectural Coating - 2014

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.03 | 0.03 | 0.37 | 0.00 | 0.08 | 0.00 | 0.09 | 0.00 | 0.00 | 0.01 | | 71.61 | | 0.00 | | 71.69 |
| **Total** | **0.03** | **0.03** | **0.37** | **0.00** | **0.08** | **0.00** | **0.09** | **0.00** | **0.00** | **0.01** | | **71.61** | | **0.00** | | **71.69** |

## 4.0 Mobile Detail

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 4.40 | 8.61 | 45.90 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 8,276.17 | | 0.32 | | 8,282.95 |
| Unmitigated | 4.40 | 8.61 | 45.90 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 8,276.17 | | 0.32 | | 8,282.95 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Single Family Housing | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |
| Total | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| 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 |
| Other Asphalt Surfaces | 8.90 | 13.30 | 7.40 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 12.70 | 7.00 | 9.50 | 40.20 | 19.20 | 40.60 |

## 5.0 Energy Detail

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| NaturalGas Unmitigated | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 9847.28 | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | | **0.11** | **0.91** | **0.39** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,158.50** | | **0.02** | **0.02** | **1,165.55** |

### 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 9.84728 | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | | **0.11** | **0.91** | **0.39** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,158.50** | | **0.02** | **0.02** | **1,165.55** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use only Natural Gas Hearths

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Unmitigated | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.65 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 6.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.14 | 0.00 | 0.01 | 0.00 | | 0.00 | 0.10 | | 0.00 | 0.10 | 0.00 | 1,530.00 | | 0.03 | 0.03 | 1,539.31 |
| Landscaping | 0.24 | 0.09 | 7.27 | 0.00 | | 0.00 | 0.04 | | 0.00 | 0.04 | | 12.78 | | 0.01 | | 13.07 |
| **Total** | **7.03** | **0.09** | **7.28** | **0.00** | | **0.00** | **0.14** | | **0.00** | **0.14** | **0.00** | **1,542.78** | | **0.04** | **0.03** | **1,552.38** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.65 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 6.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.14 | 0.00 | 0.01 | 0.00 | | 0.00 | 0.10 | | 0.00 | 0.10 | 0.00 | 1,530.00 | | 0.03 | 0.03 | 1,539.31 |
| Landscaping | 0.24 | 0.09 | 7.27 | 0.00 | | 0.00 | 0.04 | | 0.00 | 0.04 | | 12.78 | | 0.01 | | 13.07 |
| **Total** | **7.03** | **0.09** | **7.28** | **0.00** | | **0.00** | **0.14** | | **0.00** | **0.14** | **0.00** | **1,542.78** | | **0.04** | **0.03** | **1,552.38** |

## 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

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# Pinnacle at Serrano Heights

**Orange County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Other Asphalt Surfaces | 2.6 | Acre |
| Single Family Housing | 85 | Dwelling Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Southern California Edison |
| **Climate Zone** | 8 | **Precipitation Freq (Days)** | 30 | | |

### 1.3 User Entered Comments

Project Characteristics -

Land Use - Total homes' area = 302,877 SF
Total on-site paving that overlaps critical period = 114TSF=2.6Ac.
Total site gros ara = 24.6 AC

Construction Phase - According to construction schedule provided.

Off-road Equipment - Load factors per OFFROAD 2011

Off-road Equipment - per construction info provided

Off-road Equipment - Per info provided. Includes

Off-road Equipment - per info provided

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided.

Grading - Material exported = vegetation to be removed from site.

Woodstoves - No woodstoves, or woodmass

Construction Off-road Equipment Mitigation -

Area Mitigation - NG hearth only

Water Mitigation -

Off-road Equipment - Construction info provided

Off-road Equipment - Per construction info provided

Trips and VMT - Water trucks for Grading, Paving and Utilities/Underground

Water And Wastewater - 100% aerobic

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 14.09 | 111.72 | 61.01 | 0.11 | 16.12 | 5.49 | 20.91 | 6.66 | 5.49 | 12.13 | 0.00 | 12,262.66 | 0.00 | 1.25 | 0.00 | 12,288.84 |
| 2014 | 15.04 | 17.44 | 14.64 | 0.03 | 0.65 | 1.01 | 1.67 | 0.03 | 1.01 | 1.04 | 0.00 | 2,630.92 | 0.00 | 0.26 | 0.00 | 2,636.33 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 14.09 | 111.72 | 61.01 | 0.11 | 7.58 | 5.49 | 12.37 | 2.87 | 5.49 | 8.34 | 0.00 | 12,262.66 | 0.00 | 1.25 | 0.00 | 12,288.84 |
| 2014 | 15.04 | 17.44 | 14.64 | 0.03 | 0.60 | 1.01 | 1.61 | 0.03 | 1.01 | 1.04 | 0.00 | 2,630.92 | 0.00 | 0.26 | 0.00 | 2,636.33 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Energy | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| Mobile | 4.76 | 9.47 | 44.71 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 7,809.11 | | 0.33 | | 7,816.04 |
| **Total** | **11.89** | **10.47** | **52.38** | **0.09** | **9.44** | **0.39** | **10.04** | **0.32** | **0.39** | **0.91** | **0.00** | **10,510.39** | | **0.39** | **0.05** | **10,533.97** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Energy | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| Mobile | 4.76 | 9.47 | 44.71 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 7,809.11 | | 0.33 | | 7,816.04 |
| **Total** | **11.89** | **10.47** | **52.38** | **0.09** | **9.44** | **0.39** | **10.04** | **0.32** | **0.39** | **0.91** | **0.00** | **10,510.39** | | **0.39** | **0.05** | **10,533.97** |

## 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Paving OffSite - 2013

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.15 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.26** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.2 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.08 | 0.09 | 0.82 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 147.92 | | 0.01 | | 148.10 |
| **Total** | **0.11** | **0.42** | **1.05** | **0.00** | **0.22** | **0.02** | **0.24** | **0.01** | **0.02** | **0.02** | | **201.49** | | **0.01** | | **201.70** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | 0.00 | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.15 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.26** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | **0.00** | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.2 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.08 | 0.09 | 0.82 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 147.92 | | 0.01 | | 148.10 |
| **Total** | **0.11** | **0.42** | **1.05** | **0.00** | **0.20** | **0.02** | **0.22** | **0.01** | **0.02** | **0.02** | | **201.49** | | **0.01** | | **201.70** |

## 3.3 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

## 3.3 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.41 | 4.27 | 2.61 | 0.01 | 0.95 | 0.16 | 1.12 | 0.02 | 0.16 | 0.19 | | 647.87 | | 0.02 | | 648.29 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.41** | **4.27** | **2.61** | **0.01** | **0.95** | **0.16** | **1.12** | **0.02** | **0.16** | **0.19** | | **647.87** | | **0.02** | | **648.29** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** |

## 3.3 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.41 | 4.27 | 2.61 | 0.01 | 0.87 | 0.16 | 1.03 | 0.02 | 0.16 | 0.19 | | 647.87 | | 0.02 | | 648.29 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.41** | **4.27** | **2.61** | **0.01** | **0.87** | **0.16** | **1.03** | **0.02** | **0.16** | **0.19** | | **647.87** | | **0.02** | | **648.29** |

## 3.4 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 14.70 | 0.00 | 14.70 | 6.62 | 0.00 | 6.62 | | | | | | 0.00 |
| Off-Road | 8.43 | 73.76 | 35.16 | 0.07 | | 3.01 | 3.01 | | 3.01 | 3.01 | | 8,032.34 | | 0.75 | | 8,048.16 |
| **Total** | **8.43** | **73.76** | **35.16** | **0.07** | **14.70** | **3.01** | **17.71** | **6.62** | **3.01** | **9.63** | | **8,032.34** | | **0.75** | | **8,048.16** |

## 3.4 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.09 | 0.10 | 0.95 | 0.00 | 0.23 | 0.01 | 0.24 | 0.01 | 0.01 | 0.02 | | 170.68 | | 0.01 | | 170.88 |
| **Total** | **0.12** | **0.43** | **1.18** | **0.00** | **0.25** | **0.02** | **0.27** | **0.01** | **0.02** | **0.03** | | **224.25** | | **0.01** | | **224.48** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.28 | 0.00 | 6.28 | 2.83 | 0.00 | 2.83 | | | | | | 0.00 |
| Off-Road | 8.43 | 73.76 | 35.16 | 0.07 | | 3.01 | 3.01 | | 3.01 | 3.01 | 0.00 | 8,032.34 | | 0.75 | | 8,048.16 |
| **Total** | **8.43** | **73.76** | **35.16** | **0.07** | **6.28** | **3.01** | **9.29** | **2.83** | **3.01** | **5.84** | **0.00** | **8,032.34** | | **0.75** | | **8,048.16** |

## 3.4 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.09 | 0.10 | 0.95 | 0.00 | 0.21 | 0.01 | 0.22 | 0.01 | 0.01 | 0.02 | | 170.68 | | 0.01 | | 170.88 |
| **Total** | **0.12** | **0.43** | **1.18** | **0.00** | **0.23** | **0.02** | **0.25** | **0.01** | **0.02** | **0.03** | | **224.25** | | **0.01** | | **224.48** |

## 3.5 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.08 | 16.41 | 10.00 | 0.02 | | 0.85 | 0.85 | | 0.85 | 0.85 | | 1,735.81 | | 0.19 | | 1,739.73 |
| **Total** | **2.08** | **16.41** | **10.00** | **0.02** | | **0.85** | **0.85** | | **0.85** | **0.85** | | **1,735.81** | | **0.19** | | **1,739.73** |

## 3.5 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.05 | 0.05 | 0.51 | 0.00 | 0.12 | 0.00 | 0.13 | 0.00 | 0.00 | 0.01 | | 91.03 | | 0.01 | | 91.14 |
| **Total** | **0.08** | **0.38** | **0.74** | **0.00** | **0.14** | **0.01** | **0.16** | **0.00** | **0.01** | **0.02** | | **144.60** | | **0.01** | | **144.74** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.08 | 16.41 | 10.00 | 0.02 | | 0.85 | 0.85 | | 0.85 | 0.85 | 0.00 | 1,735.81 | | 0.19 | | 1,739.73 |
| **Total** | **2.08** | **16.41** | **10.00** | **0.02** | | **0.85** | **0.85** | | **0.85** | **0.85** | **0.00** | **1,735.81** | | **0.19** | | **1,739.73** |

## 3.5 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.05 | 0.05 | 0.51 | 0.00 | 0.11 | 0.00 | 0.12 | 0.00 | 0.00 | 0.01 | | 91.03 | | 0.01 | | 91.14 |
| **Total** | **0.08** | **0.38** | **0.74** | **0.00** | **0.13** | **0.01** | **0.15** | **0.00** | **0.01** | **0.02** | | **144.60** | | **0.01** | | **144.74** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.50 | 15.16 | 10.46 | 0.02 | | 0.90 | 0.90 | | 0.90 | 0.90 | | 1,788.73 | | 0.22 | | 1,793.41 |
| **Total** | **2.50** | **15.16** | **10.46** | **0.02** | | **0.90** | **0.90** | | **0.90** | **0.90** | | **1,788.73** | | **0.22** | | **1,793.41** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.13 | 1.47 | 1.02 | 0.00 | 0.08 | 0.05 | 0.13 | 0.01 | 0.05 | 0.05 | | 241.08 | | 0.01 | | 241.22 |
| Worker | 0.19 | 0.21 | 1.96 | 0.00 | 0.48 | 0.01 | 0.49 | 0.02 | 0.01 | 0.03 | | 352.73 | | 0.02 | | 353.15 |
| **Total** | **0.32** | **1.68** | **2.98** | **0.00** | **0.56** | **0.06** | **0.62** | **0.03** | **0.06** | **0.08** | | **593.81** | | **0.03** | | **594.37** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.50 | 15.16 | 10.46 | 0.02 | | 0.90 | 0.90 | | 0.90 | 0.90 | 0.00 | 1,788.73 | | 0.22 | | 1,793.41 |
| **Total** | **2.50** | **15.16** | **10.46** | **0.02** | | **0.90** | **0.90** | | **0.90** | **0.90** | **0.00** | **1,788.73** | | **0.22** | | **1,793.41** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.13 | 1.47 | 1.02 | 0.00 | 0.08 | 0.05 | 0.12 | 0.01 | 0.05 | 0.05 | | 241.08 | | 0.01 | | 241.22 |
| Worker | 0.19 | 0.21 | 1.96 | 0.00 | 0.43 | 0.01 | 0.45 | 0.02 | 0.01 | 0.03 | | 352.73 | | 0.02 | | 353.15 |
| **Total** | **0.32** | **1.68** | **2.98** | **0.00** | **0.51** | **0.06** | **0.57** | **0.03** | **0.06** | **0.08** | | **593.81** | | **0.03** | | **594.37** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.26 | 14.04 | 10.27 | 0.02 | | 0.79 | 0.79 | | 0.79 | 0.79 | | 1,788.73 | | 0.20 | | 1,792.98 |
| **Total** | **2.26** | **14.04** | **10.27** | **0.02** | | **0.79** | **0.79** | | **0.79** | **0.79** | | **1,788.73** | | **0.20** | | **1,792.98** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.12 | 1.32 | 0.94 | 0.00 | 0.08 | 0.04 | 0.13 | 0.01 | 0.04 | 0.05 | | 241.91 | | 0.01 | | 242.04 |
| Worker | 0.18 | 0.19 | 1.81 | 0.00 | 0.48 | 0.02 | 0.49 | 0.02 | 0.02 | 0.03 | | 345.87 | | 0.02 | | 346.26 |
| **Total** | **0.30** | **1.51** | **2.75** | **0.00** | **0.56** | **0.06** | **0.62** | **0.03** | **0.06** | **0.08** | | **587.78** | | **0.03** | | **588.30** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.26 | 14.04 | 10.27 | 0.02 | | 0.79 | 0.79 | | 0.79 | 0.79 | 0.00 | 1,788.73 | | 0.20 | | 1,792.98 |
| **Total** | **2.26** | **14.04** | **10.27** | **0.02** | | **0.79** | **0.79** | | **0.79** | **0.79** | **0.00** | **1,788.73** | | **0.20** | | **1,792.98** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.12 | 1.32 | 0.94 | 0.00 | 0.08 | 0.04 | 0.12 | 0.01 | 0.04 | 0.05 | | 241.91 | | 0.01 | | 242.04 |
| Worker | 0.18 | 0.19 | 1.81 | 0.00 | 0.43 | 0.02 | 0.45 | 0.02 | 0.02 | 0.03 | | 345.87 | | 0.02 | | 346.26 |
| **Total** | **0.30** | **1.51** | **2.75** | **0.00** | **0.51** | **0.06** | **0.57** | **0.03** | **0.06** | **0.08** | | **587.78** | | **0.03** | | **588.30** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.34 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.45** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.08 | 0.09 | 0.82 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 147.92 | | 0.01 | | 148.10 |
| **Total** | **0.11** | **0.42** | **1.05** | **0.00** | **0.22** | **0.02** | **0.24** | **0.01** | **0.02** | **0.02** | | **201.49** | | **0.01** | | **201.70** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | 0.00 | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.34 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.45** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | **0.00** | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.08 | 0.09 | 0.82 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 147.92 | | 0.01 | | 148.10 |
| **Total** | **0.11** | **0.42** | **1.05** | **0.00** | **0.20** | **0.02** | **0.22** | **0.01** | **0.02** | **0.02** | | **201.49** | | **0.01** | | **201.70** |

## 3.8 Architectural Coating - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 12.14 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.30 | 1.85 | 1.28 | 0.00 | | 0.16 | 0.16 | | 0.16 | 0.16 | | 187.46 | | 0.03 | | 188.02 |
| **Total** | **12.44** | **1.85** | **1.28** | **0.00** | | **0.16** | **0.16** | | **0.16** | **0.16** | | **187.46** | | **0.03** | | **188.02** |

## 3.8 Architectural Coating - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.04 | 0.04 | 0.35 | 0.00 | 0.09 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | | 66.94 | | 0.00 | | 67.02 |
| **Total** | **0.04** | **0.04** | **0.35** | **0.00** | **0.09** | **0.00** | **0.10** | **0.00** | **0.00** | **0.01** | | **66.94** | | **0.00** | | **67.02** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 12.14 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.30 | 1.85 | 1.28 | 0.00 | | 0.16 | 0.16 | | 0.16 | 0.16 | 0.00 | 187.46 | | 0.03 | | 188.02 |
| **Total** | **12.44** | **1.85** | **1.28** | **0.00** | | **0.16** | **0.16** | | **0.16** | **0.16** | **0.00** | **187.46** | | **0.03** | | **188.02** |

### 3.8 Architectural Coating - 2014

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.04 | 0.04 | 0.35 | 0.00 | 0.08 | 0.00 | 0.09 | 0.00 | 0.00 | 0.01 | | 66.94 | | 0.00 | | 67.02 |
| **Total** | **0.04** | **0.04** | **0.35** | **0.00** | **0.08** | **0.00** | **0.09** | **0.00** | **0.00** | **0.01** | | **66.94** | | **0.00** | | **67.02** |

## 4.0 Mobile Detail

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 4.76 | 9.47 | 44.71 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 7,809.11 | | 0.33 | | 7,816.04 |
| Unmitigated | 4.76 | 9.47 | 44.71 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 7,809.11 | | 0.33 | | 7,816.04 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Single Family Housing | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |
| Total | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| 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 |
| Other Asphalt Surfaces | 8.90 | 13.30 | 7.40 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 12.70 | 7.00 | 9.50 | 40.20 | 19.20 | 40.60 |

## 5.0 Energy Detail

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| NaturalGas Unmitigated | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 9847.28 | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | | **0.11** | **0.91** | **0.39** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,158.50** | | **0.02** | **0.02** | **1,165.55** |

### 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 9.84728 | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | | **0.11** | **0.91** | **0.39** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,158.50** | | **0.02** | **0.02** | **1,165.55** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use only Natural Gas Hearths

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Unmitigated | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.65 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 6.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.14 | 0.00 | 0.01 | 0.00 | | 0.00 | 0.10 | | 0.00 | 0.10 | 0.00 | 1,530.00 | | 0.03 | 0.03 | 1,539.31 |
| Landscaping | 0.24 | 0.09 | 7.27 | 0.00 | | 0.00 | 0.04 | | 0.00 | 0.04 | | 12.78 | | 0.01 | | 13.07 |
| **Total** | **7.03** | **0.09** | **7.28** | **0.00** | | **0.00** | **0.14** | | **0.00** | **0.14** | **0.00** | **1,542.78** | | **0.04** | **0.03** | **1,552.38** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.65 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 6.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.14 | 0.00 | 0.01 | 0.00 | | 0.00 | 0.10 | | 0.00 | 0.10 | 0.00 | 1,530.00 | | 0.03 | 0.03 | 1,539.31 |
| Landscaping | 0.24 | 0.09 | 7.27 | 0.00 | | 0.00 | 0.04 | | 0.00 | 0.04 | | 12.78 | | 0.01 | | 13.07 |
| **Total** | **7.03** | **0.09** | **7.28** | **0.00** | | **0.00** | **0.14** | | **0.00** | **0.14** | **0.00** | **1,542.78** | | **0.04** | **0.03** | **1,552.38** |

## 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

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# Pinnacle at Serrano Heights

**Orange County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Other Asphalt Surfaces | 2.6 | Acre |
| Single Family Housing | 85 | Dwelling Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Southern California Edison |
| **Climate Zone** | 8 | **Precipitation Freq (Days)** | 30 | | |

### 1.3 User Entered Comments

Project Characteristics -

Land Use - Total homes' area = 302,877 SF
Total on-site paving that overlaps critical period = 114TSF=2.6Ac.
Total site gros ara = 24.6 AC

Construction Phase - According to construction schedule provided.

Off-road Equipment - Load factors per OFFROAD 2011

Off-road Equipment - per construction info provided

Off-road Equipment - Per info provided. Includes

Off-road Equipment - per info provided

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided.

Grading - Material exported = vegetation to be removed from site.

Woodstoves - No woodstoves, or woodmass

Construction Off-road Equipment Mitigation -

Area Mitigation - NG hearth only

Water Mitigation -

Off-road Equipment - Construction info provided

Off-road Equipment - Per construction info provided

Trips and VMT - Water trucks for Grading, Paving and Utilities/Underground

Water And Wastewater - 100% aerobic

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 10.70 | 90.92 | 47.11 | 0.09 | 15.90 | 3.89 | 19.10 | 6.65 | 3.89 | 10.53 | 0.00 | 10,155.85 | 0.00 | 0.96 | 0.00 | 10,175.98 |
| 2014 | 15.01 | 17.35 | 14.67 | 0.03 | 0.65 | 1.01 | 1.67 | 0.03 | 1.01 | 1.04 | 0.00 | 2,661.14 | 0.00 | 0.26 | 0.00 | 2,666.56 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 10.70 | 90.92 | 47.11 | 0.09 | 6.54 | 3.89 | 9.74 | 2.49 | 3.89 | 6.36 | 0.00 | 10,155.85 | 0.00 | 0.96 | 0.00 | 10,175.98 |
| 2014 | 15.01 | 17.35 | 14.67 | 0.03 | 0.60 | 1.01 | 1.61 | 0.03 | 1.01 | 1.04 | 0.00 | 2,661.14 | 0.00 | 0.26 | 0.00 | 2,666.56 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Energy | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| Mobile | 4.40 | 8.61 | 45.90 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 8,276.17 | | 0.32 | | 8,282.95 |
| **Total** | **11.53** | **9.61** | **53.57** | **0.09** | **9.44** | **0.39** | **10.04** | **0.32** | **0.39** | **0.91** | **0.00** | **10,977.45** | | **0.38** | **0.05** | **11,000.88** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Energy | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| Mobile | 4.40 | 8.61 | 45.90 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 8,276.17 | | 0.32 | | 8,282.95 |
| **Total** | **11.53** | **9.61** | **53.57** | **0.09** | **9.44** | **0.39** | **10.04** | **0.32** | **0.39** | **0.91** | **0.00** | **10,977.45** | | **0.38** | **0.05** | **11,000.88** |

## 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Site Preparation - 2013

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

## 3.2 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.40 | 4.03 | 2.46 | 0.01 | 0.95 | 0.16 | 1.12 | 0.02 | 0.16 | 0.19 | | 650.34 | | 0.02 | | 650.76 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.40** | **4.03** | **2.46** | **0.01** | **0.95** | **0.16** | **1.12** | **0.02** | **0.16** | **0.19** | | **650.34** | | **0.02** | | **650.76** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** |

## 3.2 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.40 | 4.03 | 2.46 | 0.01 | 0.87 | 0.16 | 1.03 | 0.02 | 0.16 | 0.19 | | 650.34 | | 0.02 | | 650.76 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.40** | **4.03** | **2.46** | **0.01** | **0.87** | **0.16** | **1.03** | **0.02** | **0.16** | **0.19** | | **650.34** | | **0.02** | | **650.76** |

## 3.3 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 14.70 | 0.00 | 14.70 | 6.62 | 0.00 | 6.62 | | | | | | 0.00 |
| Off-Road | 8.43 | 73.76 | 35.16 | 0.07 | | 3.01 | 3.01 | | 3.01 | 3.01 | | 8,032.34 | | 0.75 | | 8,048.16 |
| **Total** | **8.43** | **73.76** | **35.16** | **0.07** | **14.70** | **3.01** | **17.71** | **6.62** | **3.01** | **9.63** | | **8,032.34** | | **0.75** | | **8,048.16** |

## 3.3 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.09 | 0.09 | 1.00 | 0.00 | 0.23 | 0.01 | 0.24 | 0.01 | 0.01 | 0.02 | | 182.56 | | 0.01 | | 182.78 |
| **Total** | **0.12** | **0.40** | **1.21** | **0.00** | **0.25** | **0.02** | **0.27** | **0.01** | **0.02** | **0.03** | | **236.44** | | **0.01** | | **236.69** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 5.44 | 0.00 | 5.44 | 2.45 | 0.00 | 2.45 | | | | | | 0.00 |
| Off-Road | 8.43 | 73.76 | 35.16 | 0.07 | | 3.01 | 3.01 | | 3.01 | 3.01 | 0.00 | 8,032.34 | | 0.75 | | 8,048.16 |
| **Total** | **8.43** | **73.76** | **35.16** | **0.07** | **5.44** | **3.01** | **8.45** | **2.45** | **3.01** | **5.46** | **0.00** | **8,032.34** | | **0.75** | | **8,048.16** |

## 3.3 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.09 | 0.09 | 1.00 | 0.00 | 0.21 | 0.01 | 0.22 | 0.01 | 0.01 | 0.02 | | 182.56 | | 0.01 | | 182.78 |
| **Total** | **0.12** | **0.40** | **1.21** | **0.00** | **0.23** | **0.02** | **0.25** | **0.01** | **0.02** | **0.03** | | **236.44** | | **0.01** | | **236.69** |

## 3.4 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.08 | 16.41 | 10.00 | 0.02 | | 0.85 | 0.85 | | 0.85 | 0.85 | | 1,735.81 | | 0.19 | | 1,739.73 |
| **Total** | **2.08** | **16.41** | **10.00** | **0.02** | | **0.85** | **0.85** | | **0.85** | **0.85** | | **1,735.81** | | **0.19** | | **1,739.73** |

## 3.4 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.05 | 0.05 | 0.53 | 0.00 | 0.12 | 0.00 | 0.13 | 0.00 | 0.00 | 0.01 | | 97.37 | | 0.01 | | 97.48 |
| **Total** | **0.08** | **0.36** | **0.74** | **0.00** | **0.14** | **0.01** | **0.16** | **0.00** | **0.01** | **0.02** | | **151.25** | | **0.01** | | **151.39** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.08 | 16.41 | 10.00 | 0.02 | | 0.85 | 0.85 | | 0.85 | 0.85 | 0.00 | 1,735.81 | | 0.19 | | 1,739.73 |
| **Total** | **2.08** | **16.41** | **10.00** | **0.02** | | **0.85** | **0.85** | | **0.85** | **0.85** | **0.00** | **1,735.81** | | **0.19** | | **1,739.73** |

## 3.4 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.05 | 0.05 | 0.53 | 0.00 | 0.11 | 0.00 | 0.12 | 0.00 | 0.00 | 0.01 | | 97.37 | | 0.01 | | 97.48 |
| **Total** | **0.08** | **0.36** | **0.74** | **0.00** | **0.13** | **0.01** | **0.15** | **0.00** | **0.01** | **0.02** | | **151.25** | | **0.01** | | **151.39** |

## 3.5 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.17 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.28** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.5 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.07 | 0.08 | 0.87 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 158.22 | | 0.01 | | 158.41 |
| **Total** | **0.10** | **0.39** | **1.08** | **0.00** | **0.22** | **0.02** | **0.24** | **0.01** | **0.02** | **0.02** | | **212.10** | | **0.01** | | **212.32** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | 0.00 | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.17 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.28** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | **0.00** | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.5 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.07 | 0.08 | 0.87 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 158.22 | | 0.01 | | 158.41 |
| **Total** | **0.10** | **0.39** | **1.08** | **0.00** | **0.20** | **0.02** | **0.22** | **0.01** | **0.02** | **0.02** | | **212.10** | | **0.01** | | **212.32** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.50 | 15.16 | 10.46 | 0.02 | | 0.90 | 0.90 | | 0.90 | 0.90 | | 1,788.73 | | 0.22 | | 1,793.41 |
| **Total** | **2.50** | **15.16** | **10.46** | **0.02** | | **0.90** | **0.90** | | **0.90** | **0.90** | | **1,788.73** | | **0.22** | | **1,793.41** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.13 | 1.39 | 0.92 | 0.00 | 0.08 | 0.05 | 0.13 | 0.01 | 0.05 | 0.05 | | 242.47 | | 0.01 | | 242.61 |
| Worker | 0.18 | 0.18 | 2.07 | 0.00 | 0.48 | 0.01 | 0.49 | 0.02 | 0.01 | 0.03 | | 377.30 | | 0.02 | | 377.74 |
| **Total** | **0.31** | **1.57** | **2.99** | **0.00** | **0.56** | **0.06** | **0.62** | **0.03** | **0.06** | **0.08** | | **619.77** | | **0.03** | | **620.35** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.50 | 15.16 | 10.46 | 0.02 | | 0.90 | 0.90 | | 0.90 | 0.90 | 0.00 | 1,788.73 | | 0.22 | | 1,793.41 |
| **Total** | **2.50** | **15.16** | **10.46** | **0.02** | | **0.90** | **0.90** | | **0.90** | **0.90** | **0.00** | **1,788.73** | | **0.22** | | **1,793.41** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.13 | 1.39 | 0.92 | 0.00 | 0.08 | 0.05 | 0.12 | 0.01 | 0.05 | 0.05 | | 242.47 | | 0.01 | | 242.61 |
| Worker | 0.18 | 0.18 | 2.07 | 0.00 | 0.43 | 0.01 | 0.45 | 0.02 | 0.01 | 0.03 | | 377.30 | | 0.02 | | 377.74 |
| **Total** | **0.31** | **1.57** | **2.99** | **0.00** | **0.51** | **0.06** | **0.57** | **0.03** | **0.06** | **0.08** | | **619.77** | | **0.03** | | **620.35** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.26 | 14.04 | 10.27 | 0.02 | | 0.79 | 0.79 | | 0.79 | 0.79 | | 1,788.73 | | 0.20 | | 1,792.98 |
| **Total** | **2.26** | **14.04** | **10.27** | **0.02** | | **0.79** | **0.79** | | **0.79** | **0.79** | | **1,788.73** | | **0.20** | | **1,792.98** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.12 | 1.26 | 0.84 | 0.00 | 0.08 | 0.04 | 0.13 | 0.01 | 0.04 | 0.05 | | 243.37 | | 0.01 | | 243.49 |
| Worker | 0.17 | 0.17 | 1.91 | 0.00 | 0.48 | 0.02 | 0.49 | 0.02 | 0.02 | 0.03 | | 369.97 | | 0.02 | | 370.38 |
| **Total** | **0.29** | **1.43** | **2.75** | **0.00** | **0.56** | **0.06** | **0.62** | **0.03** | **0.06** | **0.08** | | **613.34** | | **0.03** | | **613.87** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.26 | 14.04 | 10.27 | 0.02 | | 0.79 | 0.79 | | 0.79 | 0.79 | 0.00 | 1,788.73 | | 0.20 | | 1,792.98 |
| **Total** | **2.26** | **14.04** | **10.27** | **0.02** | | **0.79** | **0.79** | | **0.79** | **0.79** | **0.00** | **1,788.73** | | **0.20** | | **1,792.98** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.12 | 1.26 | 0.84 | 0.00 | 0.08 | 0.04 | 0.12 | 0.01 | 0.04 | 0.05 | | 243.37 | | 0.01 | | 243.49 |
| Worker | 0.17 | 0.17 | 1.91 | 0.00 | 0.43 | 0.02 | 0.45 | 0.02 | 0.02 | 0.03 | | 369.97 | | 0.02 | | 370.38 |
| **Total** | **0.29** | **1.43** | **2.75** | **0.00** | **0.51** | **0.06** | **0.57** | **0.03** | **0.06** | **0.08** | | **613.34** | | **0.03** | | **613.87** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.34 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.45** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.07 | 0.08 | 0.87 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 158.22 | | 0.01 | | 158.41 |
| **Total** | **0.10** | **0.39** | **1.08** | **0.00** | **0.22** | **0.02** | **0.24** | **0.01** | **0.02** | **0.02** | | **212.10** | | **0.01** | | **212.32** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | 0.00 | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.34 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.45** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | **0.00** | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.31 | 0.21 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.88 | | 0.00 | | 53.91 |
| Worker | 0.07 | 0.08 | 0.87 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 158.22 | | 0.01 | | 158.41 |
| **Total** | **0.10** | **0.39** | **1.08** | **0.00** | **0.20** | **0.02** | **0.22** | **0.01** | **0.02** | **0.02** | | **212.10** | | **0.01** | | **212.32** |

## 3.8 Architectural Coating - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 12.14 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.30 | 1.85 | 1.28 | 0.00 | | 0.16 | 0.16 | | 0.16 | 0.16 | | 187.46 | | 0.03 | | 188.02 |
| **Total** | **12.44** | **1.85** | **1.28** | **0.00** | | **0.16** | **0.16** | | **0.16** | **0.16** | | **187.46** | | **0.03** | | **188.02** |

## 3.8 Architectural Coating - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.03 | 0.03 | 0.37 | 0.00 | 0.09 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | | 71.61 | | 0.00 | | 71.69 |
| **Total** | **0.03** | **0.03** | **0.37** | **0.00** | **0.09** | **0.00** | **0.10** | **0.00** | **0.00** | **0.01** | | **71.61** | | **0.00** | | **71.69** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 12.14 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.30 | 1.85 | 1.28 | 0.00 | | 0.16 | 0.16 | | 0.16 | 0.16 | 0.00 | 187.46 | | 0.03 | | 188.02 |
| **Total** | **12.44** | **1.85** | **1.28** | **0.00** | | **0.16** | **0.16** | | **0.16** | **0.16** | **0.00** | **187.46** | | **0.03** | | **188.02** |

### 3.8 Architectural Coating - 2014

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.03 | 0.03 | 0.37 | 0.00 | 0.08 | 0.00 | 0.09 | 0.00 | 0.00 | 0.01 | | 71.61 | | 0.00 | | 71.69 |
| **Total** | **0.03** | **0.03** | **0.37** | **0.00** | **0.08** | **0.00** | **0.09** | **0.00** | **0.00** | **0.01** | | **71.61** | | **0.00** | | **71.69** |

## 4.0 Mobile Detail

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 4.40 | 8.61 | 45.90 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 8,276.17 | | 0.32 | | 8,282.95 |
| Unmitigated | 4.40 | 8.61 | 45.90 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 8,276.17 | | 0.32 | | 8,282.95 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Single Family Housing | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |
| Total | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| 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 |
| Other Asphalt Surfaces | 8.90 | 13.30 | 7.40 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 12.70 | 7.00 | 9.50 | 40.20 | 19.20 | 40.60 |

## 5.0 Energy Detail

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| NaturalGas Unmitigated | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 9847.28 | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | | **0.11** | **0.91** | **0.39** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,158.50** | | **0.02** | **0.02** | **1,165.55** |

### 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 9.84728 | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | | **0.11** | **0.91** | **0.39** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,158.50** | | **0.02** | **0.02** | **1,165.55** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use only Natural Gas Hearths

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Unmitigated | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.65 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 6.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.14 | 0.00 | 0.01 | 0.00 | | 0.00 | 0.10 | | 0.00 | 0.10 | 0.00 | 1,530.00 | | 0.03 | 0.03 | 1,539.31 |
| Landscaping | 0.24 | 0.09 | 7.27 | 0.00 | | 0.00 | 0.04 | | 0.00 | 0.04 | | 12.78 | | 0.01 | | 13.07 |
| **Total** | **7.03** | **0.09** | **7.28** | **0.00** | | **0.00** | **0.14** | | **0.00** | **0.14** | **0.00** | **1,542.78** | | **0.04** | **0.03** | **1,552.38** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.65 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 6.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.14 | 0.00 | 0.01 | 0.00 | | 0.00 | 0.10 | | 0.00 | 0.10 | 0.00 | 1,530.00 | | 0.03 | 0.03 | 1,539.31 |
| Landscaping | 0.24 | 0.09 | 7.27 | 0.00 | | 0.00 | 0.04 | | 0.00 | 0.04 | | 12.78 | | 0.01 | | 13.07 |
| **Total** | **7.03** | **0.09** | **7.28** | **0.00** | | **0.00** | **0.14** | | **0.00** | **0.14** | **0.00** | **1,542.78** | | **0.04** | **0.03** | **1,552.38** |

## 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

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# Pinnacle at Serrano Heights

**Orange County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Other Asphalt Surfaces | 2.6 | Acre |
| Single Family Housing | 85 | Dwelling Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Southern California Edison |
| **Climate Zone** | 8 | **Precipitation Freq (Days)** | 30 | | |

### 1.3 User Entered Comments

Project Characteristics -

Land Use - Total homes' area = 302,877 SF
Total on-site paving that overlaps critical period = 114TSF=2.6Ac.
Total site gros ara = 24.6 AC

Construction Phase - According to construction schedule provided.

Off-road Equipment - Load factors per OFFROAD 2011

Off-road Equipment - per construction info provided

Off-road Equipment - Per info provided. Includes

Off-road Equipment - per info provided

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided.

Grading - Material exported = vegetation to be removed from site.

Woodstoves - No woodstoves, or woodmass

Construction Off-road Equipment Mitigation -

Area Mitigation - NG hearth only

Water Mitigation -

Off-road Equipment - Construction info provided

Off-road Equipment - Per construction info provided

Trips and VMT - Water trucks for Grading, Paving and Utilities/Underground

Water And Wastewater - 100% aerobic

## 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 | | | | | |
| 2013 | 0.53 | 4.06 | 2.35 | 0.00 | 0.51 | 0.20 | 0.71 | 0.23 | 0.20 | 0.43 | 0.00 | 421.35 | 421.35 | 0.04 | 0.00 | 422.25 |
| 2014 | 1.47 | 1.71 | 1.45 | 0.00 | 0.06 | 0.10 | 0.16 | 0.00 | 0.10 | 0.10 | 0.00 | 236.79 | 236.79 | 0.02 | 0.00 | 237.28 |
| **Total** | **2.00** | **5.77** | **3.80** | **0.00** | **0.57** | **0.30** | **0.87** | **0.23** | **0.30** | **0.53** | **0.00** | **658.14** | **658.14** | **0.06** | **0.00** | **659.53** |

### 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 | | | | | |
| 2013 | 0.53 | 4.06 | 2.35 | 0.00 | 0.21 | 0.20 | 0.41 | 0.08 | 0.20 | 0.29 | 0.00 | 421.35 | 421.35 | 0.04 | 0.00 | 422.25 |
| 2014 | 1.47 | 1.71 | 1.45 | 0.00 | 0.05 | 0.10 | 0.15 | 0.00 | 0.10 | 0.10 | 0.00 | 236.79 | 236.79 | 0.02 | 0.00 | 237.28 |
| **Total** | **2.00** | **5.77** | **3.80** | **0.00** | **0.26** | **0.30** | **0.56** | **0.08** | **0.30** | **0.39** | **0.00** | **658.14** | **658.14** | **0.06** | **0.00** | **659.53** |

## 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 | 1.26 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| Energy | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 351.36 | 351.36 | 0.01 | 0.01 | 353.52 |
| Mobile | 0.76 | 1.48 | 7.83 | 0.01 | 1.47 | 0.07 | 1.54 | 0.05 | 0.07 | 0.12 | 0.00 | 1,241.97 | 1,241.97 | 0.05 | 0.00 | 1,243.05 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 20.22 | 0.00 | 20.22 | 1.20 | 0.00 | 45.32 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 32.26 | 32.26 | 0.13 | 0.01 | 36.53 |
| **Total** | **2.04** | **1.67** | **9.23** | **0.01** | **1.47** | **0.07** | **1.56** | **0.05** | **0.07** | **0.14** | **20.22** | **1,627.70** | **1,647.92** | **1.39** | **0.02** | **1,680.58** |

## 2.2 Overall Operational

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 1.26 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| Energy | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 351.36 | 351.36 | 0.01 | 0.01 | 353.52 |
| Mobile | 0.76 | 1.48 | 7.83 | 0.01 | 1.47 | 0.07 | 1.54 | 0.05 | 0.07 | 0.12 | 0.00 | 1,241.97 | 1,241.97 | 0.05 | 0.00 | 1,243.05 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 20.22 | 0.00 | 20.22 | 1.20 | 0.00 | 45.32 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 27.37 | 27.37 | 0.10 | 0.00 | 30.80 |
| **Total** | **2.04** | **1.67** | **9.23** | **0.01** | **1.47** | **0.07** | **1.56** | **0.05** | **0.07** | **0.14** | **20.22** | **1,622.81** | **1,643.03** | **1.36** | **0.01** | **1,674.85** |

# 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Site Preparation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

### 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 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.47 | 1.47 | 0.00 | 0.00 | 1.47 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.47** | **1.47** | **0.00** | **0.00** | **1.47** |

## 3.2 Site Preparation - 2013

### 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 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

### 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 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.47 | 1.47 | 0.00 | 0.00 | 1.47 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.47** | **1.47** | **0.00** | **0.00** | **1.47** |

## 3.3 Grading - 2013

### 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 | | | | | 0.48 | 0.00 | 0.48 | 0.22 | 0.00 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.27 | 2.40 | 1.14 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 236.76 | 236.76 | 0.02 | 0.00 | 237.22 |
| **Total** | **0.27** | **2.40** | **1.14** | **0.00** | **0.48** | **0.10** | **0.58** | **0.22** | **0.10** | **0.32** | **0.00** | **236.76** | **236.76** | **0.02** | **0.00** | **237.22** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.58 | 1.58 | 0.00 | 0.00 | 1.59 |
| Worker | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 5.14 | 5.14 | 0.00 | 0.00 | 5.15 |
| **Total** | **0.00** | **0.01** | **0.04** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.72** | **6.72** | **0.00** | **0.00** | **6.74** |

## 3.3 Grading - 2013

### 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 | | | | | 0.18 | 0.00 | 0.18 | 0.08 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.27 | 2.40 | 1.14 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 236.76 | 236.76 | 0.02 | 0.00 | 237.22 |
| **Total** | **0.27** | **2.40** | **1.14** | **0.00** | **0.18** | **0.10** | **0.28** | **0.08** | **0.10** | **0.18** | **0.00** | **236.76** | **236.76** | **0.02** | **0.00** | **237.22** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.58 | 1.58 | 0.00 | 0.00 | 1.59 |
| Worker | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 5.14 | 5.14 | 0.00 | 0.00 | 5.15 |
| **Total** | **0.00** | **0.01** | **0.04** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.72** | **6.72** | **0.00** | **0.00** | **6.74** |

## 3.4 Utilities and Underground - 2013

### 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 | 0.06 | 0.49 | 0.30 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 47.23 | 47.23 | 0.01 | 0.00 | 47.33 |
| **Total** | **0.06** | **0.49** | **0.30** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **47.23** | **47.23** | **0.01** | **0.00** | **47.33** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.46 | 1.46 | 0.00 | 0.00 | 1.46 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.53 | 2.53 | 0.00 | 0.00 | 2.54 |
| **Total** | **0.00** | **0.01** | **0.03** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **3.99** | **3.99** | **0.00** | **0.00** | **4.00** |

## 3.4 Utilities and Underground - 2013

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.06 | 0.49 | 0.30 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 47.23 | 47.23 | 0.01 | 0.00 | 47.33 |
| **Total** | **0.06** | **0.49** | **0.30** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **47.23** | **47.23** | **0.01** | **0.00** | **47.33** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.46 | 1.46 | 0.00 | 0.00 | 1.46 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.53 | 2.53 | 0.00 | 0.00 | 2.54 |
| **Total** | **0.00** | **0.01** | **0.03** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **3.99** | **3.99** | **0.00** | **0.00** | **4.00** |

## 3.5 Paving OffSite - 2013

### 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 | 0.06 | 0.41 | 0.26 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 34.90 | 34.90 | 0.01 | 0.00 | 35.01 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.06** | **0.41** | **0.26** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **34.90** | **34.90** | **0.01** | **0.00** | **35.01** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.98 | 0.98 | 0.00 | 0.00 | 0.98 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.74 | 2.74 | 0.00 | 0.00 | 2.75 |
| **Total** | **0.00** | **0.01** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **3.72** | **3.72** | **0.00** | **0.00** | **3.73** |

## 3.5 Paving OffSite - 2013

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.06 | 0.41 | 0.26 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 34.90 | 34.90 | 0.01 | 0.00 | 35.01 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.06** | **0.41** | **0.26** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **34.90** | **34.90** | **0.01** | **0.00** | **35.01** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.98 | 0.98 | 0.00 | 0.00 | 0.98 |
| Worker | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.74 | 2.74 | 0.00 | 0.00 | 2.75 |
| **Total** | **0.00** | **0.01** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **3.72** | **3.72** | **0.00** | **0.00** | **3.73** |

## 3.6 Building Construction - 2013

### 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 | 0.08 | 0.47 | 0.32 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 50.29 | 50.29 | 0.01 | 0.00 | 50.42 |
| **Total** | **0.08** | **0.47** | **0.32** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **50.29** | **50.29** | **0.01** | **0.00** | **50.42** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.80 | 6.80 | 0.00 | 0.00 | 6.81 |
| Worker | 0.01 | 0.01 | 0.06 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 10.14 | 10.14 | 0.00 | 0.00 | 10.15 |
| **Total** | **0.01** | **0.05** | **0.09** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **16.94** | **16.94** | **0.00** | **0.00** | **16.96** |

## 3.6 Building Construction - 2013

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.08 | 0.47 | 0.32 | 0.00 | | 0.03 | 0.03 | | 0.03 | 0.03 | 0.00 | 50.29 | 50.29 | 0.01 | 0.00 | 50.42 |
| **Total** | **0.08** | **0.47** | **0.32** | **0.00** | | **0.03** | **0.03** | | **0.03** | **0.03** | **0.00** | **50.29** | **50.29** | **0.01** | **0.00** | **50.42** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.04 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.80 | 6.80 | 0.00 | 0.00 | 6.81 |
| Worker | 0.01 | 0.01 | 0.06 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 10.14 | 10.14 | 0.00 | 0.00 | 10.15 |
| **Total** | **0.01** | **0.05** | **0.09** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **16.94** | **16.94** | **0.00** | **0.00** | **16.96** |

## 3.6 Building Construction - 2014

### 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 | 0.22 | 1.39 | 1.02 | 0.00 | | 0.08 | 0.08 | | 0.08 | 0.08 | 0.00 | 160.60 | 160.60 | 0.02 | 0.00 | 160.99 |
| **Total** | **0.22** | **1.39** | **1.02** | **0.00** | | **0.08** | **0.08** | | **0.08** | **0.08** | **0.00** | **160.60** | **160.60** | **0.02** | **0.00** | **160.99** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.01 | 0.12 | 0.09 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 21.80 | 21.80 | 0.00 | 0.00 | 21.81 |
| Worker | 0.02 | 0.02 | 0.18 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 31.76 | 31.76 | 0.00 | 0.00 | 31.79 |
| **Total** | **0.03** | **0.14** | **0.27** | **0.00** | **0.05** | **0.00** | **0.05** | **0.00** | **0.00** | **0.00** | **0.00** | **53.56** | **53.56** | **0.00** | **0.00** | **53.60** |

## 3.6 Building Construction - 2014

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.22 | 1.39 | 1.02 | 0.00 | | 0.08 | 0.08 | | 0.08 | 0.08 | 0.00 | 160.60 | 160.60 | 0.02 | 0.00 | 160.99 |
| **Total** | **0.22** | **1.39** | **1.02** | **0.00** | | **0.08** | **0.08** | | **0.08** | **0.08** | **0.00** | **160.60** | **160.60** | **0.02** | **0.00** | **160.99** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.01 | 0.12 | 0.09 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 21.80 | 21.80 | 0.00 | 0.00 | 21.81 |
| Worker | 0.02 | 0.02 | 0.18 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 31.76 | 31.76 | 0.00 | 0.00 | 31.79 |
| **Total** | **0.03** | **0.14** | **0.27** | **0.00** | **0.05** | **0.00** | **0.05** | **0.00** | **0.00** | **0.00** | **0.00** | **53.56** | **53.56** | **0.00** | **0.00** | **53.60** |

## 3.7 Paving OnSite - 2013

### 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 | 0.03 | 0.20 | 0.13 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 17.45 | 17.45 | 0.00 | 0.00 | 17.50 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.03** | **0.20** | **0.13** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **17.45** | **17.45** | **0.00** | **0.00** | **17.50** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.49 | 0.49 | 0.00 | 0.00 | 0.49 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.37 | 1.37 | 0.00 | 0.00 | 1.37 |
| **Total** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.86** | **1.86** | **0.00** | **0.00** | **1.86** |

## 3.7 Paving OnSite - 2013

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.03 | 0.20 | 0.13 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 17.45 | 17.45 | 0.00 | 0.00 | 17.50 |
| Paving | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.03** | **0.20** | **0.13** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **17.45** | **17.45** | **0.00** | **0.00** | **17.50** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.49 | 0.49 | 0.00 | 0.00 | 0.49 |
| Worker | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.37 | 1.37 | 0.00 | 0.00 | 1.37 |
| **Total** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.86** | **1.86** | **0.00** | **0.00** | **1.86** |

## 3.8 Architectural Coating - 2014

### 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 | 1.18 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.03 | 0.18 | 0.12 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 16.58 | 16.58 | 0.00 | 0.00 | 16.63 |
| **Total** | **1.21** | **0.18** | **0.12** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **16.58** | **16.58** | **0.00** | **0.00** | **16.63** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 6.05 | 6.05 | 0.00 | 0.00 | 6.06 |
| **Total** | **0.00** | **0.00** | **0.03** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.05** | **6.05** | **0.00** | **0.00** | **6.06** |

## 3.8 Architectural Coating - 2014

### 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 | 1.18 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.03 | 0.18 | 0.12 | 0.00 | | 0.02 | 0.02 | | 0.02 | 0.02 | 0.00 | 16.58 | 16.58 | 0.00 | 0.00 | 16.63 |
| **Total** | **1.21** | **0.18** | **0.12** | **0.00** | | **0.02** | **0.02** | | **0.02** | **0.02** | **0.00** | **16.58** | **16.58** | **0.00** | **0.00** | **16.63** |

### 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 6.05 | 6.05 | 0.00 | 0.00 | 6.06 |
| **Total** | **0.00** | **0.00** | **0.03** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **6.05** | **6.05** | **0.00** | **0.00** | **6.06** |

# 4.0 Mobile Detail

## 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 | 0.76 | 1.48 | 7.83 | 0.01 | 1.47 | 0.07 | 1.54 | 0.05 | 0.07 | 0.12 | 0.00 | 1,241.97 | 1,241.97 | 0.05 | 0.00 | 1,243.05 |
| Unmitigated | 0.76 | 1.48 | 7.83 | 0.01 | 1.47 | 0.07 | 1.54 | 0.05 | 0.07 | 0.12 | 0.00 | 1,241.97 | 1,241.97 | 0.05 | 0.00 | 1,243.05 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Single Family Housing | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |
| Total | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| 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 |
| Other Asphalt Surfaces | 8.90 | 13.30 | 7.40 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 12.70 | 7.00 | 9.50 | 40.20 | 19.20 | 40.60 |

## 5.0 Energy Detail

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 159.55 | 159.55 | 0.01 | 0.00 | 160.55 |
| Electricity Unmitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 159.55 | 159.55 | 0.01 | 0.00 | 160.55 |
| NaturalGas Mitigated | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 191.80 | 191.80 | 0.00 | 0.00 | 192.97 |
| NaturalGas Unmitigated | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 191.80 | 191.80 | 0.00 | 0.00 | 192.97 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 3.59426e+006 | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 191.80 | 191.80 | 0.00 | 0.00 | 192.97 |
| **Total** | | **0.02** | **0.17** | **0.07** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **191.80** | **191.80** | **0.00** | **0.00** | **192.97** |

### 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 | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 3.59426e+006 | 0.02 | 0.17 | 0.07 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 191.80 | 191.80 | 0.00 | 0.00 | 192.97 |
| **Total** | | **0.02** | **0.17** | **0.07** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **191.80** | **191.80** | **0.00** | **0.00** | **192.97** |

## 5.3 Energy by Land Use - Electricity

### Unmitigated

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 548536 | | | | | 159.55 | 0.01 | 0.00 | 160.55 |
| **Total** | | | | | | **159.55** | **0.01** | **0.00** | **160.55** |

### Mitigated

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 548536 | | | | | 159.55 | 0.01 | 0.00 | 160.55 |
| **Total** | | | | | | **159.55** | **0.01** | **0.00** | **160.55** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

Use only Natural Gas Hearths

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 1.26 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| Unmitigated | 1.26 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | 0.12 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 1.09 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.04 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| **Total** | **1.25** | **0.02** | **1.33** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **2.11** | **2.11** | **0.00** | **0.00** | **2.16** |

## 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.12 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 1.09 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hearth | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.04 | 0.02 | 1.33 | 0.00 | | 0.00 | 0.01 | | 0.00 | 0.01 | 0.00 | 2.11 | 2.11 | 0.00 | 0.00 | 2.16 |
| **Total** | **1.25** | **0.02** | **1.33** | **0.00** | | **0.00** | **0.01** | | **0.00** | **0.01** | **0.00** | **2.11** | **2.11** | **0.00** | **0.00** | **2.16** |

# 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

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 27.37 | 0.10 | 0.00 | 30.80 |
| Unmitigated | | | | | 32.26 | 0.13 | 0.01 | 36.53 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 7.2 Water by Land Use

### Unmitigated

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 5.53809 / 3.49141 | | | | | 32.26 | 0.13 | 0.01 | 36.53 |
| **Total** | | | | | | **32.26** | **0.13** | **0.01** | **36.53** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 4.43047 / 3.27843 | | | | | 27.37 | 0.10 | 0.00 | 30.80 |
| **Total** | | | | | | **27.37** | **0.10** | **0.00** | **30.80** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 20.22 | 1.20 | 0.00 | 45.32 |
| Unmitigated | | | | | 20.22 | 1.20 | 0.00 | 45.32 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 8.2 Waste by Land Use

### Unmitigated

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 99.63 | | | | | 20.22 | 1.20 | 0.00 | 45.32 |
| **Total** | | | | | | **20.22** | **1.20** | **0.00** | **45.32** |

### Mitigated

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| Other Asphalt Surfaces | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 99.63 | | | | | 20.22 | 1.20 | 0.00 | 45.32 |
| **Total** | | | | | | **20.22** | **1.20** | **0.00** | **45.32** |

## 9.0 Vegetation

# Pinnacle at Serrano Heights

**Orange County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Other Asphalt Surfaces | 2.6 | Acre |
| Single Family Housing | 85 | Dwelling Unit |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Southern California Edison |
| **Climate Zone** | 8 | **Precipitation Freq (Days)** | 30 | | |

### 1.3 User Entered Comments

Project Characteristics -

Land Use - Total homes' area = 302,877 SF
Total on-site paving that overlaps critical period = 114TSF=2.6Ac.
Total site gros ara = 24.6 AC

Construction Phase - According to construction schedule provided.

Off-road Equipment - Load factors per OFFROAD 2011

Off-road Equipment - per construction info provided

Off-road Equipment - Per info provided. Includes

Off-road Equipment - per info provided

Off-road Equipment - Construction equipment list provided by applicant.

Off-road Equipment - Construction equipment list provided.

Grading - Material exported = vegetation to be removed from site.

Woodstoves - No woodstoves, or woodmass

Construction Off-road Equipment Mitigation -

Area Mitigation - NG hearth only

Water Mitigation -

Off-road Equipment - Construction info provided

Off-road Equipment - Per construction info provided

Trips and VMT - Water trucks for Grading, Paving and Utilities/Underground

Water And Wastewater - 100% aerobic

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 10.71 | 90.98 | 47.07 | 0.09 | 15.90 | 3.89 | 19.10 | 6.65 | 3.89 | 10.53 | 0.00 | 10,137.00 | 0.00 | 0.96 | 0.00 | 10,157.12 |
| 2014 | 15.04 | 17.44 | 14.64 | 0.03 | 0.65 | 1.01 | 1.67 | 0.03 | 1.01 | 1.04 | 0.00 | 2,630.92 | 0.00 | 0.26 | 0.00 | 2,636.33 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| 2013 | 10.71 | 90.98 | 47.07 | 0.09 | 6.54 | 3.89 | 9.74 | 2.49 | 3.89 | 6.36 | 0.00 | 10,137.00 | 0.00 | 0.96 | 0.00 | 10,157.12 |
| 2014 | 15.04 | 17.44 | 14.64 | 0.03 | 0.60 | 1.01 | 1.61 | 0.03 | 1.01 | 1.04 | 0.00 | 2,630.92 | 0.00 | 0.26 | 0.00 | 2,636.33 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Energy | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| Mobile | 4.76 | 9.47 | 44.71 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 7,809.11 | | 0.33 | | 7,816.04 |
| **Total** | **11.89** | **10.47** | **52.38** | **0.09** | **9.44** | **0.39** | **10.04** | **0.32** | **0.39** | **0.91** | **0.00** | **10,510.39** | | **0.39** | **0.05** | **10,533.97** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Energy | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| Mobile | 4.76 | 9.47 | 44.71 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 7,809.11 | | 0.33 | | 7,816.04 |
| **Total** | **11.89** | **10.47** | **52.38** | **0.09** | **9.44** | **0.39** | **10.04** | **0.32** | **0.39** | **0.91** | **0.00** | **10,510.39** | | **0.39** | **0.05** | **10,533.97** |

## 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Site Preparation - 2013

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

## 3.2 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.41 | 4.27 | 2.61 | 0.01 | 0.95 | 0.16 | 1.12 | 0.02 | 0.16 | 0.19 | | 647.87 | | 0.02 | | 648.29 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.41** | **4.27** | **2.61** | **0.01** | **0.95** | **0.16** | **1.12** | **0.02** | **0.16** | **0.19** | | **647.87** | | **0.02** | | **648.29** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** |

## 3.2 Site Preparation - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.41 | 4.27 | 2.61 | 0.01 | 0.87 | 0.16 | 1.03 | 0.02 | 0.16 | 0.19 | | 647.87 | | 0.02 | | 648.29 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.41** | **4.27** | **2.61** | **0.01** | **0.87** | **0.16** | **1.03** | **0.02** | **0.16** | **0.19** | | **647.87** | | **0.02** | | **648.29** |

## 3.3 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 14.70 | 0.00 | 14.70 | 6.62 | 0.00 | 6.62 | | | | | | 0.00 |
| Off-Road | 8.43 | 73.76 | 35.16 | 0.07 | | 3.01 | 3.01 | | 3.01 | 3.01 | | 8,032.34 | | 0.75 | | 8,048.16 |
| **Total** | **8.43** | **73.76** | **35.16** | **0.07** | **14.70** | **3.01** | **17.71** | **6.62** | **3.01** | **9.63** | | **8,032.34** | | **0.75** | | **8,048.16** |

## 3.3 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.09 | 0.10 | 0.95 | 0.00 | 0.23 | 0.01 | 0.24 | 0.01 | 0.01 | 0.02 | | 170.68 | | 0.01 | | 170.88 |
| **Total** | **0.12** | **0.43** | **1.18** | **0.00** | **0.25** | **0.02** | **0.27** | **0.01** | **0.02** | **0.03** | | **224.25** | | **0.01** | | **224.48** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 5.44 | 0.00 | 5.44 | 2.45 | 0.00 | 2.45 | | | | | | 0.00 |
| Off-Road | 8.43 | 73.76 | 35.16 | 0.07 | | 3.01 | 3.01 | | 3.01 | 3.01 | 0.00 | 8,032.34 | | 0.75 | | 8,048.16 |
| **Total** | **8.43** | **73.76** | **35.16** | **0.07** | **5.44** | **3.01** | **8.45** | **2.45** | **3.01** | **5.46** | **0.00** | **8,032.34** | | **0.75** | | **8,048.16** |

## 3.3 Grading - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.09 | 0.10 | 0.95 | 0.00 | 0.21 | 0.01 | 0.22 | 0.01 | 0.01 | 0.02 | | 170.68 | | 0.01 | | 170.88 |
| **Total** | **0.12** | **0.43** | **1.18** | **0.00** | **0.23** | **0.02** | **0.25** | **0.01** | **0.02** | **0.03** | | **224.25** | | **0.01** | | **224.48** |

## 3.4 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.08 | 16.41 | 10.00 | 0.02 | | 0.85 | 0.85 | | 0.85 | 0.85 | | 1,735.81 | | 0.19 | | 1,739.73 |
| **Total** | **2.08** | **16.41** | **10.00** | **0.02** | | **0.85** | **0.85** | | **0.85** | **0.85** | | **1,735.81** | | **0.19** | | **1,739.73** |

## 3.4 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.05 | 0.05 | 0.51 | 0.00 | 0.12 | 0.00 | 0.13 | 0.00 | 0.00 | 0.01 | | 91.03 | | 0.01 | | 91.14 |
| **Total** | **0.08** | **0.38** | **0.74** | **0.00** | **0.14** | **0.01** | **0.16** | **0.00** | **0.01** | **0.02** | | **144.60** | | **0.01** | | **144.74** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.08 | 16.41 | 10.00 | 0.02 | | 0.85 | 0.85 | | 0.85 | 0.85 | 0.00 | 1,735.81 | | 0.19 | | 1,739.73 |
| **Total** | **2.08** | **16.41** | **10.00** | **0.02** | | **0.85** | **0.85** | | **0.85** | **0.85** | **0.00** | **1,735.81** | | **0.19** | | **1,739.73** |

## 3.4 Utilities and Underground - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.05 | 0.05 | 0.51 | 0.00 | 0.11 | 0.00 | 0.12 | 0.00 | 0.00 | 0.01 | | 91.03 | | 0.01 | | 91.14 |
| **Total** | **0.08** | **0.38** | **0.74** | **0.00** | **0.13** | **0.01** | **0.15** | **0.00** | **0.01** | **0.02** | | **144.60** | | **0.01** | | **144.74** |

## 3.5 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.17 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.28** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.5 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.08 | 0.09 | 0.82 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 147.92 | | 0.01 | | 148.10 |
| **Total** | **0.11** | **0.42** | **1.05** | **0.00** | **0.22** | **0.02** | **0.24** | **0.01** | **0.02** | **0.02** | | **201.49** | | **0.01** | | **201.70** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | 0.00 | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.17 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.28** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | **0.00** | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.5 Paving OffSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.08 | 0.09 | 0.82 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 147.92 | | 0.01 | | 148.10 |
| **Total** | **0.11** | **0.42** | **1.05** | **0.00** | **0.20** | **0.02** | **0.22** | **0.01** | **0.02** | **0.02** | | **201.49** | | **0.01** | | **201.70** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.50 | 15.16 | 10.46 | 0.02 | | 0.90 | 0.90 | | 0.90 | 0.90 | | 1,788.73 | | 0.22 | | 1,793.41 |
| **Total** | **2.50** | **15.16** | **10.46** | **0.02** | | **0.90** | **0.90** | | **0.90** | **0.90** | | **1,788.73** | | **0.22** | | **1,793.41** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.13 | 1.47 | 1.02 | 0.00 | 0.08 | 0.05 | 0.13 | 0.01 | 0.05 | 0.05 | | 241.08 | | 0.01 | | 241.22 |
| Worker | 0.19 | 0.21 | 1.96 | 0.00 | 0.48 | 0.01 | 0.49 | 0.02 | 0.01 | 0.03 | | 352.73 | | 0.02 | | 353.15 |
| **Total** | **0.32** | **1.68** | **2.98** | **0.00** | **0.56** | **0.06** | **0.62** | **0.03** | **0.06** | **0.08** | | **593.81** | | **0.03** | | **594.37** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.50 | 15.16 | 10.46 | 0.02 | | 0.90 | 0.90 | | 0.90 | 0.90 | 0.00 | 1,788.73 | | 0.22 | | 1,793.41 |
| **Total** | **2.50** | **15.16** | **10.46** | **0.02** | | **0.90** | **0.90** | | **0.90** | **0.90** | **0.00** | **1,788.73** | | **0.22** | | **1,793.41** |

## 3.6 Building Construction - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.13 | 1.47 | 1.02 | 0.00 | 0.08 | 0.05 | 0.12 | 0.01 | 0.05 | 0.05 | | 241.08 | | 0.01 | | 241.22 |
| Worker | 0.19 | 0.21 | 1.96 | 0.00 | 0.43 | 0.01 | 0.45 | 0.02 | 0.01 | 0.03 | | 352.73 | | 0.02 | | 353.15 |
| **Total** | **0.32** | **1.68** | **2.98** | **0.00** | **0.51** | **0.06** | **0.57** | **0.03** | **0.06** | **0.08** | | **593.81** | | **0.03** | | **594.37** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.26 | 14.04 | 10.27 | 0.02 | | 0.79 | 0.79 | | 0.79 | 0.79 | | 1,788.73 | | 0.20 | | 1,792.98 |
| **Total** | **2.26** | **14.04** | **10.27** | **0.02** | | **0.79** | **0.79** | | **0.79** | **0.79** | | **1,788.73** | | **0.20** | | **1,792.98** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.12 | 1.32 | 0.94 | 0.00 | 0.08 | 0.04 | 0.13 | 0.01 | 0.04 | 0.05 | | 241.91 | | 0.01 | | 242.04 |
| Worker | 0.18 | 0.19 | 1.81 | 0.00 | 0.48 | 0.02 | 0.49 | 0.02 | 0.02 | 0.03 | | 345.87 | | 0.02 | | 346.26 |
| **Total** | **0.30** | **1.51** | **2.75** | **0.00** | **0.56** | **0.06** | **0.62** | **0.03** | **0.06** | **0.08** | | **587.78** | | **0.03** | | **588.30** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 2.26 | 14.04 | 10.27 | 0.02 | | 0.79 | 0.79 | | 0.79 | 0.79 | 0.00 | 1,788.73 | | 0.20 | | 1,792.98 |
| **Total** | **2.26** | **14.04** | **10.27** | **0.02** | | **0.79** | **0.79** | | **0.79** | **0.79** | **0.00** | **1,788.73** | | **0.20** | | **1,792.98** |

## 3.6 Building Construction - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.12 | 1.32 | 0.94 | 0.00 | 0.08 | 0.04 | 0.12 | 0.01 | 0.04 | 0.05 | | 241.91 | | 0.01 | | 242.04 |
| Worker | 0.18 | 0.19 | 1.81 | 0.00 | 0.43 | 0.02 | 0.45 | 0.02 | 0.02 | 0.03 | | 345.87 | | 0.02 | | 346.26 |
| **Total** | **0.30** | **1.51** | **2.75** | **0.00** | **0.51** | **0.06** | **0.57** | **0.03** | **0.06** | **0.08** | | **587.78** | | **0.03** | | **588.30** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.34 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.45** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.08 | 0.09 | 0.82 | 0.00 | 0.20 | 0.01 | 0.21 | 0.01 | 0.01 | 0.01 | | 147.92 | | 0.01 | | 148.10 |
| **Total** | **0.11** | **0.42** | **1.05** | **0.00** | **0.22** | **0.02** | **0.24** | **0.01** | **0.02** | **0.02** | | **201.49** | | **0.01** | | **201.70** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 3.11 | 20.33 | 12.89 | 0.02 | | 1.58 | 1.58 | | 1.58 | 1.58 | 0.00 | 1,924.17 | | 0.28 | | 1,930.02 |
| Paving | 0.34 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| **Total** | **3.45** | **20.33** | **12.89** | **0.02** | | **1.58** | **1.58** | | **1.58** | **1.58** | **0.00** | **1,924.17** | | **0.28** | | **1,930.02** |

## 3.7 Paving OnSite - 2013

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.33 | 0.23 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.01 | 0.01 | | 53.57 | | 0.00 | | 53.60 |
| Worker | 0.08 | 0.09 | 0.82 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 147.92 | | 0.01 | | 148.10 |
| **Total** | **0.11** | **0.42** | **1.05** | **0.00** | **0.20** | **0.02** | **0.22** | **0.01** | **0.02** | **0.02** | | **201.49** | | **0.01** | | **201.70** |

## 3.8 Architectural Coating - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 12.14 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.30 | 1.85 | 1.28 | 0.00 | | 0.16 | 0.16 | | 0.16 | 0.16 | | 187.46 | | 0.03 | | 188.02 |
| **Total** | **12.44** | **1.85** | **1.28** | **0.00** | | **0.16** | **0.16** | | **0.16** | **0.16** | | **187.46** | | **0.03** | | **188.02** |

## 3.8 Architectural Coating - 2014

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.04 | 0.04 | 0.35 | 0.00 | 0.09 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | | 66.94 | | 0.00 | | 67.02 |
| **Total** | **0.04** | **0.04** | **0.35** | **0.00** | **0.09** | **0.00** | **0.10** | **0.00** | **0.00** | **0.01** | | **66.94** | | **0.00** | | **67.02** |

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 12.14 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.30 | 1.85 | 1.28 | 0.00 | | 0.16 | 0.16 | | 0.16 | 0.16 | 0.00 | 187.46 | | 0.03 | | 188.02 |
| **Total** | **12.44** | **1.85** | **1.28** | **0.00** | | **0.16** | **0.16** | | **0.16** | **0.16** | **0.00** | **187.46** | | **0.03** | | **188.02** |

### 3.8 Architectural Coating - 2014

**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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.04 | 0.04 | 0.35 | 0.00 | 0.08 | 0.00 | 0.09 | 0.00 | 0.00 | 0.01 | | 66.94 | | 0.00 | | 67.02 |
| **Total** | **0.04** | **0.04** | **0.35** | **0.00** | **0.08** | **0.00** | **0.09** | **0.00** | **0.00** | **0.01** | | **66.94** | | **0.00** | | **67.02** |

## 4.0 Mobile Detail

### 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 4.76 | 9.47 | 44.71 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 7,809.11 | | 0.33 | | 7,816.04 |
| Unmitigated | 4.76 | 9.47 | 44.71 | 0.08 | 9.44 | 0.39 | 9.83 | 0.32 | 0.39 | 0.71 | | 7,809.11 | | 0.33 | | 7,816.04 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Single Family Housing | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |
| Total | 813.45 | 856.80 | 745.45 | 2,697,527 | 2,697,527 |

### 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| 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 |
| Other Asphalt Surfaces | 8.90 | 13.30 | 7.40 | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 12.70 | 7.00 | 9.50 | 40.20 | 19.20 | 40.60 |

## 5.0 Energy Detail

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| NaturalGas Unmitigated | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 9847.28 | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | | **0.11** | **0.91** | **0.39** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,158.50** | | **0.02** | **0.02** | **1,165.55** |

### 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Single Family Housing | 9.84728 | 0.11 | 0.91 | 0.39 | 0.01 | | 0.00 | 0.07 | | 0.00 | 0.07 | | 1,158.50 | | 0.02 | 0.02 | 1,165.55 |
| **Total** | | **0.11** | **0.91** | **0.39** | **0.01** | | **0.00** | **0.07** | | **0.00** | **0.07** | | **1,158.50** | | **0.02** | **0.02** | **1,165.55** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

Use only Natural Gas Hearths

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| Unmitigated | 7.02 | 0.09 | 7.28 | 0.00 | | 0.00 | 0.14 | | 0.00 | 0.13 | 0.00 | 1,542.78 | | 0.04 | 0.03 | 1,552.38 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.65 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 6.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.14 | 0.00 | 0.01 | 0.00 | | 0.00 | 0.10 | | 0.00 | 0.10 | 0.00 | 1,530.00 | | 0.03 | 0.03 | 1,539.31 |
| Landscaping | 0.24 | 0.09 | 7.27 | 0.00 | | 0.00 | 0.04 | | 0.00 | 0.04 | | 12.78 | | 0.01 | | 13.07 |
| **Total** | **7.03** | **0.09** | **7.28** | **0.00** | | **0.00** | **0.14** | | **0.00** | **0.14** | **0.00** | **1,542.78** | | **0.04** | **0.03** | **1,552.38** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.65 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 6.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Hearth | 0.14 | 0.00 | 0.01 | 0.00 | | 0.00 | 0.10 | | 0.00 | 0.10 | 0.00 | 1,530.00 | | 0.03 | 0.03 | 1,539.31 |
| Landscaping | 0.24 | 0.09 | 7.27 | 0.00 | | 0.00 | 0.04 | | 0.00 | 0.04 | | 12.78 | | 0.01 | | 13.07 |
| **Total** | **7.03** | **0.09** | **7.28** | **0.00** | | **0.00** | **0.14** | | **0.00** | **0.14** | **0.00** | **1,542.78** | | **0.04** | **0.03** | **1,552.38** |

## 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

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

| EquipmentTypeID | OFFROAD2011 Adj ARB LF | COMPARE TO CalEEMod Default | Percent Change |
|---|---|---|---|
| Aerial Lifts | 0.3082 | 0.46 | -33% |
| Air Compressors | NA | 0.48 | |
| Bore/Drill Rigs | 0.5025 | 0.75 | -33% |
| Cement and Mortar Mixers | NA | 0.56 | |
| Concrete/Industrial Saws | NA | 0.73 | |
| Cranes | 0.2881 | 0.43 | -33% |
| Crawler Tractors | 0.4288 | 0.64 | -33% |
| Crushing/Proc. Equipment | NA | 0.78 | |
| Dumpers/Tenders | NA | 0.38 | |
| Excavators | 0.3819 | 0.57 | -33% |
| Forklift (GSE) | 0.201 | 0.30 | -33% |
| Forklifts | 0.201 | 0.30 | -33% |
| Generator Sets | NA | 0.74 | |
| Graders | 0.4087 | 0.61 | -33% |
| Off-Highway Tractors | 0.4355 | 0.65 | -33% |
| Off-Highway Trucks | 0.3819 | 0.57 | -33% |
| Other Construction Equipment | 0.4154 | 0.62 | -33% |
| Other General Industrial Equipment | 0.3417 | 0.51 | -33% |
| Other Material Handling Equipment | 0.3953 | 0.59 | -33% |
| Pavers | 0.4154 | 0.62 | -33% |
| Paving Equipment | 0.3551 | 0.53 | -33% |
| Plate Compactors | NA | 0.43 | |
| Pressure Washers | NA | 0.30 | |
| Pumps | NA | 0.74 | |
| Rollers | 0.3752 | 0.56 | -33% |
| Rough Terrain Forklifts | 0.402 | 0.60 | -33% |
| Rubber Tired Dozers | 0.3953 | 0.59 | -33% |
| Rubber Tired Loaders | 0.3618 | 0.54 | -33% |
| Scrapers | 0.4824 | 0.72 | -33% |
| Signal Boards | NA | 0.82 | |
| Skid Steer Loaders | 0.3685 | 0.55 | -33% |
| Surfacing Equipment | 0.3015 | 0.45 | -33% |
| Sweepers/Scrubbers | 0.4556 | 0.68 | -33% |
| Tractors/Loaders/Backhoes | 0.3685 | 0.55 | -33% |
| Trenchers | 0.5025 | 0.75 | -33% |
| Welders | | 0.45 | |

Source: OFFROAD2011 and CalEEMod