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March 4, 2015

Mr. Jon Rilling
The Accretive Group of Companies
12275 El Camino Real, Suite 110
San Diego, CA 92130

Reference: Mountain Ridge Road Fire Station Alternative – Air Quality Analysis
(RECON Number 6153)

Dear Mr. Rilling:

This technical analysis identifies and documents potential air quality impacts related to the Mountain Ridge Road Fire Station Alternative (Alternative) for the proposed Lilac Hills Ranch project (proposed project). Three figures are enclosed with this analysis: Figure 1 shows the regional location of the project site; Figure 2 shows the boundary of the project site plotted on an aerial photograph of the project vicinity; and Figure 3 shows the land use plan for the Alternative. The analysis of the proposed project is contained in the *Air Quality Technical Report, Lilac Hills Ranch, San Diego County, California* (Air Quality Report) (RECON 2014).¹

Description of the Mountain Ridge Road Fire Station Alternative

The Mountain Ridge Road Fire Station Alternative would be located on the same 608-acre site as the proposed project, and would consist of the same mix of residential, commercial, and institutional uses, along with parks, open space and other project amenities, including the Water Reclamation Facility and Recycling Facility. Specifically, the Alternative entails construction and operation of the same component parts as the proposed project, including single-family detached, single-family attached, mixed-use residential, and age-restricted single-family homes, totaling a maximum of 1,746 dwelling units; amenities to serve the senior citizen neighborhood, including a 200-bed group residential facility; commercial uses; a K-8 school; a 50-room country inn; civic facilities, including a fire station; public and private parks; an institutional facility; and private recreational facilities and other recreational amenities. The open space areas would retain some of the existing citrus and avocado groves, along with 104.1 acres of sensitive biological/wetland habitat. Additional biological open space may be provided off site to mitigate impacts to upland habitat and contribute to a proposed regional preserve system.

In comparison to the proposed project, the Alternative would relocate the proposed fire station from Phase 3 to Phase 5 of the project site. As shown on Figure 3, this Alternative would provide the Deer Springs Fire Protection District (DSFPD) with a 2-acre site within Phase 5 for the future

¹The Air Quality Report contains information regarding the existing conditions and regulatory setting that are applicable to the analysis of both the proposed project and the Alternative evaluated in this letter report.

permanent fire station. The permanent station would consist of a new 4,500-square-foot building, consisting of 3,000 square feet of livable space with two, dual-stacked engine bays equal to 1,500 square feet. (This total square footage [i.e., 4,500] would represent an increase in the overall building square footage when compared to the proposed project.) The site would include eight parking spaces for firefighters and two spaces for the public. The final design of the fire station will require a Site Plan and will need to be approved by the DSFPD.

To accommodate the location of the fire station within Phase 5, the Alternative would convert and improve Mountain Ridge Road from a 2-lane private road with restricted access to a County public road, classified as a Rural Residential Collector. Specifically, this Alternative proposes to improve Mountain Ridge Road to allow for a 28-foot paved roadway within a 40-foot graded easement, with a reduced speed of 30 miles per hour (mph).² The Alternative also proposes to remove all access restriction (gates) on Mountain Ridge Road and along Lilac Hills Ranch Road, allowing public travel through the project site.

Like the proposed project, access under the Alternative would be provided by two permanent access points to West Lilac Road, which turns into Main Street within the project site. Additional access would be provided by a legal physical connection to West Lilac Road via Covey Lane, and emergency access would be provided via Street "B" via Rodriguez Road. As discussed below, the Alternative would not alter the travel distance associated with the proposed project on a regional level. However, the Alternative would increase the emissions associated with operations due to the additional 4,500 square feet of building square footage and increase the daily trip generation. The Alternative would also increase construction-related emissions due to the construction of additional building square footage and the additional improvements to Mountain Ridge Road. This analysis assesses the potential air quality impacts due to construction and operation under the Alternative.

County Significance Thresholds

The County has approved "Guidelines for Determining Significance and Report Format and Content Requirements" (County Guidelines), dated March 19, 2007, which are used as the basis for determining significance of the proposed project's and this Alternative's air quality impacts. As with the proposed project, the thresholds used to assess the Alternative's impacts required this analysis to consider whether the Alternative would:

1. Conflict with or obstruct the implementation of the RAQS and/or applicable portions of the SIP.
2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.
 - a. Result in emissions that exceed 250 pounds per day of NO_x, or 75 pounds per day of VOCs.
 - b. Result in emissions of carbon monoxide of 550 pounds per day, and when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm.
 - c. Result in emissions of PM_{2.5} that exceed 55 pounds per day.

²A standard Rural Residential Collector includes a 28-foot wide paved roadway with a 48-foot wide graded easement. While the Alternative would pursue a road exception request to improve Mountain Ridge Road with a reduced 40-foot graded easement, the analysis below assumes the worst-case scenario of a standard Rural Residential Collector with a 48-foot wide graded easement.

- d. Result in emissions of PM₁₀ that exceed 100 pounds per day and increase the ambient PM₁₀ concentration by 5.0 µg/m³ or greater at the maximum exposed individual.
 - e. Result in emissions of ROG, as a precursor to ozone, that exceed 75 pounds per day.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (PM₁₀, PM_{2.5}, or exceed quantitative thresholds for ozone precursors: NO_x and ROG).
 4. Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, day-care centers and project residents) to substantial pollutant concentrations.
 - a. Place sensitive receptors near CO hot spots or creates CO hot spots near sensitive receptors.
 - b. Result in exposure to TACs resulting in a maximum incremental cancer risk greater than 1 in 1 million without application of best available control technology for toxics or a health hazard index greater than one would be deemed as having a potentially significant impact.
 5. Expose considerable number of persons to objectionable odors. (Note that the attributes of this Alternative would not change the odor impacts of the proposed project; therefore, this subject is not considered further.)

Analysis Methodologies and Assumptions

The methodology for the analysis of this Alternative is the same as that described for the proposed project in the Air Quality Report (RECON 2014). However, methods used also are summarized briefly below.

Criteria Pollutant Analysis

Construction

On-site construction emissions were modeled using the California Emissions Estimator Model, version 2011.1.1 (CalEEMod). CalEEMod calculates construction emissions for land use development projects based on various project-specific inputs, including building type, acreage, soil hauling, construction phasing, equipment lists, and worker commutes and materials delivery. Thus, project-generated emissions of criteria air pollutants and ozone precursors were modeled based on information provided in the project description, the Lilac Hills Ranch Specific Plan, and default settings included in CalEEMod.

CalEEMod calculates ROG emissions rather than VOCs. The CARB defines VOC and ROG similarly as “any compound of carbon excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions, and CARB excludes any stable organic compound, such as methane, from the definition of ROG (State of California 2004). For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions and the term ROG is used in this report.

The project applicant has provided approximate timeframes for the construction of the 4,500-square-foot fire station proposed by this Alternative. (The methodologies and assumptions used to estimate emissions resulting from the construction of the Mountain Ridge Road improvements are discussed below.) Total construction of the fire station is estimated to be approximately 10 to 11 months in length. Inputs used to model construction emissions were based on equipment lists

included in CalEEMod. The construction equipment is summarized in Table 1. According to the Specific Plan, the construction equipment would be composed of Tier III equipment, as outlined in the Mitigation Measures and Design Considerations in Section 4.2.1.3 of the Air Quality Report, and may be replaced with Tier IV equipment in the final phases as required by law. The emissions calculated in this analysis are based on the Tier levels presented in Table 1.

**TABLE 1
CONSTRUCTION EQUIPMENT LIST**

Construction Stage	Equipment Type	Quantity	Tier
Grading	Crawler Tractors	1	III
Grading	Graders	1	III
Grading	Rubber Tired Loaders	1	III
Grading	Scrapers	1	III
Building Construction	Cranes	1	III
Building Construction	Forklifts	1	III
Building Construction	Generator Sets	1	II
Building Construction	Tractors/Loaders/Backhoes	4	III
Building Construction	Welders	3	II
Paving	Pavers	1	III
Paving	Paving Equipment	1	III
Paving	Rollers	1	III
Architectural Coating	Air Compressors	1	I

Project-specific data was input into CalEEMod to calculate maximum daily emissions associated with construction. For air quality modeling purposes, it was estimated that construction activities would commence in January 2018 and conclude in November 2018. As emission rates for equipment and vehicles would be expected to decrease with time due to continued improvements in equipment technologies and fuel formulations, if the construction of the project begins and ends after these dates, the emission estimates would still be considered acceptable as the emissions from equipment would be conservative.

Therefore, the modeled construction scenario is conservative for individual pieces of construction equipment and vehicles. A list of modeling inputs for construction are provided in Attachment 1.

Off-site roadway construction activities were modeled using the Road Construction Emissions Model, version 7.1.5.1, developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD). Where Alternative-specific information was not available, default assumptions provided in the model were used to estimate construction emissions (Attachment 1).

As with construction of the proposed project, construction activities associated with the Alternative would be subject to several control measures per the requirements of the County of San Diego, San Diego Air Pollution Control District (SDAPCD) rules, and California Air Resources Board (CARB) air toxic control measures (ATCM). Accordingly, the following required control measures were incorporated into the calculations of construction emissions.

- Per the County's *Standard Mitigation and Project Design Consideration Grading, Clearing and Watercourses Ordinance* Section 87.428, the applicant shall implement one or more of the following measures during all grading activities:
 - Water actively disturbed surfaces at least twice daily.
 - Apply non-toxic soil stabilizers to inactive, exposed surfaces when not in use for more than 3 days. Non-toxic soil stabilizers should also be applied to any exposed surfaces

- immediately (i.e., less than 24 hours) following completion of grading activities if the areas would not be in use for more than 3 days following completion of grading.
- Remove soil track-out from paved surfaces daily or more frequently as necessary.
- Minimize the track-out of soil onto paved surfaces by installation of wheel washers.
- Per CARB's ACTM 13 (California Code of Regulations Chapter 10 Section 2485), the applicant shall not allow idling time to exceed 5 minutes unless more time is required per engine manufacturers' specifications or for safety reasons.

For modeling purposes, construction of the improvements to Mountain Ridge Road proposed by the Alternative would occur in 2018 and require 6 months to complete. The total length of construction along Mountain Ridge Road would be approximately 0.6 mile and occur over a maximum temporary construction area of approximately 6 acres with a daily disturbance of 2.5 acres. As with all other phases of construction, all grading and related earthwork would be balanced within the project site; thus, no off-site hauling of soil would occur. However, to be conservative, the analysis assumes a maximum of 200 cubic yards of soil (cut and fill) would be hauled off-site up to 30 miles away.

As construction of Mountain Ridge Road would occur during Phase 5 of the Alternative, emissions from construction equipment were quantified by overlapping the on-site construction phases with the maximum daily emissions associated with the Alternative.

To determine significance, the worst-case scenarios of the overlapping phases were analyzed.

Operation

The operation of the Alternative would result in emissions from area and mobile sources. Vehicle trip generation rates are used by CalEEMod to estimate the mobile source operational emissions for each corresponding land use. The CalEEMod defaults for vehicle fleet mix and trip lengths for a rural environment were used in the modeling. The trip generation rates were obtained from the Traffic Impact Study prepared for the project (Chen Ryan 2014), which indicated the new permanent fire station would generate 16 additional daily trips.

Area sources associated with the Alternative would include architectural coating, consumer products, landscaping, and natural gas use. CalEEMod defaults were assumed for consumer products, landscaping, and natural gas consumption. Architectural coatings would comply with SDAPCD Rule 67, which limits the VOC content of paints sold within the County. A list of assumptions modeling inputs used in the air emissions modeling is provided in Attachment 1.

The construction and operation of the new permanent fire station and the conversion of Mountain Ridge Road under the Alternative to a Rural Residential Collector roadway would result in additional construction and operational emissions, as compared to the proposed project. All other land uses would be the same as the proposed project; thus, the emissions due to construction and operation of the new fire station and conversion of Mountain Ridge Road were calculated and added to the project's emissions under this analysis to obtain total emissions due to construction and operation of the Alternative.

Localized Carbon Monoxide Hot-Spot

The Alternative would result in vehicle trips on existing and future intersections similar to the trips estimated for the proposed project. As with the proposed project, the addition of these trips could degrade the level of service (LOS) of intersections to a level where a carbon monoxide (CO) hot spot could occur. The County Guidelines state that intersections that are likely to result in a CO

hot spot would operate at a LOS E or worse and would include peak-hour trips exceeding 3,000 vehicle trips.

Localized PM Hot Spot

Guidance for assessing localized impacts from particulate matter with a diameter of 10 micrometers or less (PM_{10}) is provided by the Federal Highway Administration in the *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*. Based on this guidance, projects of local air quality concern include:

- A project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic (AADT) where 8 percent or more of such AADT is diesel truck traffic;
- New exit ramps and other highway facility improvements to connect a highway or expressway to a major freight, bus, or intermodal terminal;
- Expansion of an existing highway or other facility that affects a congested intersection (operating at LOS D, E, or F) that has a significant increase in the number of diesel trucks; and/or
- Similar highway projects that involve a significant increase in the number of diesel transit buses and/or diesel trucks.

Conformance to Federal and State Ambient Air Quality Standards

Construction Impacts

The construction of the new permanent fire station and the conversion of Mountain Ridge Road under the Alternative to a Rural Residential Collector roadway would result in additional construction emissions, as compared to the proposed project. As shown in Table 2, the construction activities exclusively associated with this Alternative alone would not exceed the County's thresholds. However, the Alternative's construction activities in combination with other planned simultaneous on-site construction activities associated with the project (Phases 3 and 5) would exceed County thresholds for nitrogen oxides (NO_x), PM_{10} , and particulate matter with a diameter of 2.5 micrometers or less ($PM_{2.5}$). Compared to the proposed project, the Alternative would result in a new significant NO_x impact during construction of Phases 3 and 5, and greater PM_{10} and $PM_{2.5}$ impacts as emissions would be higher due to the additional disturbance associated with the construction of Mountain Ridge Road. (Refer to Attachment 1 for the detailed modeling data.)

**TABLE 2
COMPARISON OF UNMITIGATED CONSTRUCTION EMISSIONS FOR THE PROPOSED
PROJECT AND MOUNTAIN RIDGE ROAD FIRE STATION ALTERNATIVE (lbs/day)¹**

Source	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Proposed Project						
Phases 3 and 5 ²	34.0	240.6	454.7	10.3	449.6	99.2
SLT	75	250	550	250	100	55
Significant Impact?	No	No	No	No	Yes	Yes
Alternative						
Fire Station	3.5	25.3	19.5	0.0	8.0	4.5
Mountain Ridge Road	7.3	77.5	45.6	0.0	28.6	8.4
Subtotal	10.8	102.8	65.1	0.0	36.6	12.9
Phases 3 and 5 ²	34.0	240.6	454.7	10.3	449.6	99.2
Total	44.8	343.4	519.8	10.3	486.2	112.1
SLT	75	250	550	250	100	55
Significant Impact?	No	Yes	No	No	Yes	Yes

ROG = reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; SLT = Screening Level Threshold
¹Emissions reported are maximum daily emissions from each construction scenario regardless of the construction stage, e.g., maximum PM₁₀ and NO_x emissions occur during grading while maximum ROG emissions occur during architectural coatings, but are reported in the Table together for impact determination.
²Includes emissions from blasting activities.

Operation Impacts

While the Alternative would increase emissions associated with the operation of the new permanent fire station, as shown in Table 3, the Alternative's operational impacts would be similar to those of the proposed project. As previously discussed, the Alternative would result in an increase of 16 trips generated daily and an increase in area source emissions as compared to the proposed project. However, the increase in air emissions associated with the Alternative would have no additional impacts on operational air quality emissions. As such, the operational air quality impacts generated by the Alternative would be similar to those of the proposed project and mitigation would be the same as described in the Air Quality Report (RECON 2014).

**TABLE 3
COMPARISON OF UNMITIGATED OPERATION EMISSIONS FOR THE PROPOSED PROJECT
AND MOUNTAIN RIDGE ROAD FIRE STATION ALTERNATIVE (lbs/day)¹**

Source	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Project						
Traffic Scenario C + Phases 3 and 5	151.8	174.1	931.1	1.2	169.1	12.8
SLT	75	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	Yes
Alternative						
Fire Station	0.2	0.2	0.6	0.0	0.2	0.0
Alternative + Traffic Scenario C + Phases 3 and 5	152.0	174.3	931.7	1.2	169.3	12.8
SLT	75	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	Yes

ROG = reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; SLT = Screening Level Threshold
¹Emissions reported are maximum daily emissions from all phases.

Combined Construction + Operation Impacts

Construction of this Alternative would occur in Phase 5 when other project phases are in differing stages of operation and construction. As shown in Table 4, when operation emissions from previously completed phases (Traffic Scenario C [Phases 1, 2, and 4]) are combined with the additional aspects of this Alternative and ongoing construction in Phases 3 and 5, all pollutant emissions associated with the Alternative would exceed the SLT except for sulfur oxides (SO_x) (see Table 4). The proposed project would also exceed the SLT for all pollutants except SO_x under the same scenario. While both this Alternative and the proposed project would result in SLT exceedances for reactive organic gases (ROG), NO_x, CO, PM₁₀, and PM_{2.5} in the combined construction and operational conditions, the Alternative's exceedance would be greater than the proposed project's exceedance.

**TABLE 4
COMPARISON OF CONSTRUCTION + OPERATIONAL EMISSIONS FOR THE PROPOSED
PROJECT AND MOUNTAIN RIDGE ROAD FIRE STATION ALTERNATIVE (lbs/day)¹**

Source	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Project						
Traffic Scenario C + Phases 3 and 5	156.2	385.7	1227.2	11.5	589.7	109.3
SLT	75	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	Yes
Alternative						
Construction	10.8	102.8	65.1	0.0	36.6	12.9
Operation	0.2	0.2	0.6	0.0	0.2	0.0
Sub-total	11.0	103.0	65.7	0.0	36.8	12.9
Alternative + Traffic Scenario C + Phases 3 and 5	167.2	488.7	1,292.9	11.5	626.5	122.2
SLT	75	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	Yes

ROG = reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; SLT = Screening Level Threshold
¹Emissions reported are maximum daily emissions from all phases.

Mitigation

As with the proposed project, the Alternative would implement all project design and mitigation measures described in Section 4.2.1.3 of the Air Quality Report to reduce construction emissions. The Alternative's mitigated construction emissions for ROG, CO, PM₁₀, and PM_{2.5} would be below the SLT. However, NO_x would remain above the SLT after mitigation (Table 5). There is no feasible mitigation beyond what is included in the proposed project to avoid this impact. Therefore, this NO_x impact under the Alternative would be **significant and unavoidable**. All construction emission impacts for the proposed project would be reduced to below the SLT with mitigation. Thus, the Alternative would result in an additional significant and unavoidable NO_x impact from construction-related activities, as compared to the proposed project.

**TABLE 5
COMPARISON OF MITIGATED CONSTRUCTION EMISSIONS FOR THE PROPOSED
PROJECT AND MOUNTAIN RIDGE ROAD FIRE STATION ALTERNATIVE (lbs/day)¹**

Source	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Project						
Phases 3 and 5	36.1	203.7	474.0	10.3	53.6	16.5
SLT	75	250	550	250	100	55
Significant Impact?	No	No	No	No	No	No
Alternative						
Fire Station	6.3	20.2	21.5	0.0	4.0	2.6
Mountain Ridge Road	7.3	77.5	45.6	0.0	28.6	8.4
Phases 3 and 5	36.1	203.7	474.0	10.3	53.6	16.5
Subtotal	49.7	301.4	541.1	10.3	86.2	27.5
SLT	75	250	550	250	100	55
Significant Impact?	No	Yes	NO	No	No	No

ROG =reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; SLT = Screening Level Threshold
¹Emissions reported are maximum daily emissions from each construction scenario regardless of the construction stage, e.g. maximum PM₁₀ and NO_x emissions occur during grading while maximum ROG emissions occur during architectural coatings, but are reported in the Table together for impact determination.

Table 6 includes mitigated combined operational emissions that would occur from operation under the Alternative. The table shows that, even after the application of all design considerations and mitigation measures identified in the Air Quality Report, the Alternative would exceed the SLT for all criteria pollutants, except SO_x and PM_{2.5}. Thus, the significant PM_{2.5} impact would be mitigated to levels below significant, but ROG, NO_x, CO, and PM₁₀ emissions would remain significant. Total emissions under the Alternative would be greater than the proposed project and, as described for the proposed project in the Air Quality Report Section 4.2.2.3, would remain **significant and unavoidable**.

**TABLE 6
COMPARISON OF MITIGATED OPERATIONAL EMISSIONS FOR THE PROPOSED PROJECT
AND MOUNTAIN RIDGE ROAD FIRE STATION ALTERNATIVE (lbs/day)¹**

Source	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Project						
Traffic Scenario C	157.0	348.1	1,235.2	11.5	167.2	21.5
SLT	75	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	No
Alternative						
Fire Station	0.2	0.2	0.6	0.0	0.2	0.0
Alternative + Traffic Scenario C	157.2	348.3	1,235.8	11.5	167.4	21.5
SLT	75	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	No

ROG =reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; SLT = Screening Level Threshold
¹Emissions reported are maximum daily emissions from all phases.

Table 7 includes mitigated combined construction and operational emissions that would occur at the same point in time. The table shows that, even after the application of all design considerations and mitigation measures identified in the Air Quality Report, the Alternative would exceed the SLT for all criteria pollutants, except SO_x and PM_{2.5}. Thus, as with the project, the significant PM_{2.5} impact would be mitigated to levels below significant, but ROG, NO_x, CO, and

PM₁₀ emissions would remain significant. Total emissions under the Alternative would be greater than the proposed project and, as described for the proposed project in the Air Quality Report Section 4.2.2.3, would remain **significant and unavoidable**.

**TABLE 7
COMPARISON OF MITIGATED CONSTRUCTION + OPERATIONAL EMISSIONS FOR THE
PROPOSED PROJECT AND MOUNTAIN RIDGE ROAD FIRE STATION ALTERNATIVE
(lbs/day)¹**

Source	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Project						
Traffic Scenario C + Phases 3 and 5	157.0	348.1	1235.2	11.5	167.2	21.5
SLT	75	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	No
Alternative						
Construction and Operation	11.0	103.0	65.7	0.0	36.8	12.9
Alternative + Traffic Scenario C + Phases 3 and 5	168.0	451.3	1300.9	11.5	204.0	34.4
SLT	75	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	No

ROG = reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = suspended particulate matter; PM_{2.5} = fine particulate matter; SLT = Screening Level Threshold
¹Emissions reported are maximum daily emissions from all phases.

Cumulatively Considerable Net Increase of Criteria Pollutants

The County Guidelines state that even if direct air quality impacts from a project are less than significant, the project may still have a cumulatively considerable impact on air quality if the emissions are significant in combination with other reasonably foreseeable future projects within proximity of the proposed action. Projects that would individually cause a significant direct air quality impact with respect to VOC, NO_x, PM₁₀, or PM_{2.5} would also be considered to have a cumulatively considerable net increase in emissions.

According to the County Guidelines, it is assumed that a project, which conforms to the County of San Diego General Plan and does not have emissions exceeding the SLTs would not create a cumulatively considerable net increase to ozone since the emissions are included and considered in the RAQS, which is the SDAPCD's plan for attaining the NAAQS and CAAQS for ozone.

As shown in Tables 5, 6, and 7, however, even with the implementation of project design considerations and mitigation measures, the Alternative's criteria pollutant emissions would exceed the County's SLT for NO_x during construction and ROG, NO_x, CO, and PM₁₀ during the overlapping construction plus operation scenario. Therefore, similar to the proposed project, the Alternative would cause a **cumulatively considerable significant impact**. While the Alternative would have impacts similar to the proposed project, the emissions are greater than under the proposed project.

Impacts to Sensitive Receptors

Localized Hot Spot Carbon Monoxide Analyses

Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and certain meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that

result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses. A CO hot spot occurs when localized CO concentrations exceed the NAAQS or CAAQS. As a result, the County recommends analysis of CO emissions at a local, as well as a regional, level.

With this Alternative, the related traffic would contribute vehicle trips on existing and future intersections. While, the number of trips generated would increase slightly (16 additional daily trips) as compared to the proposed project, the distribution would be slightly different with the greatest change in traffic volumes occurring at the intersection of Mountain Ridge Road with Circle R Drive.

According to the *Lilac Hills Ranch Mountain Ridge Road Fire Station Alternative Traffic Impact Analysis* (Chen Ryan 2014), the Mountain Ridge Road intersection with Circle R Drive would be unsignalized and the maximum volume of traffic during the AM and PM peak periods would be approximately 680 vehicles under the cumulative condition. As 680 peak hour vehicles is well below the 3,000 peak hour vehicles criterion of the County Guidelines, the Alternative would not result in a new CO hot spot beyond any identified in the Air Quality Report for the proposed project.

Localized Hot Spot PM₁₀ Analyses

Potential impacts from localized PM emissions have been assessed in accordance with the Federal Highway Administration guidance described above. The Alternative would not result in a new highway improvement project and the volume on I-15, in this area, ranges between 107,000 and 113,000 AADT (Caltrans 2011). Based on the Caltrans traffic volume data for I-15 between Deer Springs Road and SR-76, the diesel truck traffic, the primary source of diesel exhaust, represents approximately 7 percent of the total traffic volume (Caltrans 2011). Additionally, based on the *Lilac Hills Ranch Mountain Ridge Road Fire Station Alternative Traffic Impact Analysis* (Chen Ryan 2014), the Mountain Ridge Road and Circle R Drive intersection would operate at LOS C or better. The Alternative would not result in the degradation of any additional intersection beyond those analyzed in the proposed project's Air Quality Report. As with the proposed project, the Alternative would have a less than significant impact on PM₁₀ hot spots.

Diesel Particulate Matter

As with the construction of Phases 1 through 5 of the proposed project, construction of the Alternative would result in short-term diesel particulate matter (DPM) exhaust emissions from on-site heavy-duty equipment during site grading and earthmoving, trenching, asphalt paving, and other construction activities. Other construction-related sources of DPM include material delivery trucks and construction worker vehicles; however, these sources are minimal relative to construction equipment. DPM is identified as a toxic air contaminant (TAC) by CARB.

As with the analysis of the proposed project, the DPM emissions for the Alternative's construction-related activities were estimated using exhaust PM₁₀ values from annual emission estimates. The Alternative would generate an additional 1.4 tons of exhaust PM₁₀ annually, relative to the proposed project, due to the additional construction. With the additional PM₁₀ emissions, the Alternative's concentration of exhaust PM₁₀ would be 0.207 microgram per cubic meter relative to the proposed project's 0.191 microgram per cubic meter. Maintaining all other factors used in the proposed project's analysis (e.g., best emission-control technologies such as AQ-DC-3), this would result in a cancer risk of 9.83 in one million at the point of maximum concentration, which is above the project's 6.95 in a million cancer risk. While the cancer risk would increase relative to the proposed project, the Alternative's modeled cancer risks would not exceed the County's significance threshold of 10 in 1 million. Therefore, as with the proposed project, the Alternative's construction-related TAC impacts to sensitive receptors would be **less than significant**.

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Additionally, DPM has chronic (i.e., long-term) non-cancer health impacts. The chronic non-cancer inhalation hazard indices for the proposed project were calculated by dividing the modeled annual average concentrations of the DPM by the Reference Exposure Level (REL). The Office of Environmental Health Hazard (OEHHA) has recommended an ambient concentration of $5 \mu\text{g}/\text{m}^3$ as the chronic inhalation REL for DPM.

The REL is the concentration at or below which no adverse health effects are anticipated and this is referenced as the acute, 8-hour, and chronic hazard index. The annual concentration of $0.2058 \mu\text{g}/\text{m}^3$ was divided by the REL (5 for DPM) to determine the non-cancer risk from DPM exposure for the Alternative. The resulting value is $0.04116 \mu\text{g}/\text{m}^3$. This DPM concentration for the Alternative is below the REL and is under the County's more stringent significance threshold of 1 for non-cancer health impacts. Therefore, as with the proposed project, the non-cancer health impacts associated with the Alternative's construction-related TAC impacts to sensitive receptors would be **less than significant**.

Summary

This technical analysis identifies and documents potential air quality impacts related to the Mountain Ridge Road Fire Station Alternative as compared to those impacts identified in the Air Quality Report for the proposed Lilac Hills Ranch project. The Alternative would result in additional construction- and operation-related emissions during Phase 5 of project development due to construction of improvements to Mountain Ridge Road, as well as the construction and operation of the additional building square footage for the fire station. The additional construction emissions under the Alternative would lead to a significant unavoidable NO_x impact during construction of Phases 3 and 5 that would not occur under the proposed project. Both the proposed project and Alternative would have significant and unavoidable PM_{10} and $\text{PM}_{2.5}$ construction impacts in Phases 3 and 5. Additionally, the Alternative's Phases 3 and 5 construction emissions combined with the operation of the new permanent fire station and previously completed phases would result in greater air quality impacts than those identified for the proposed project. Both the proposed project and Alternative would result in significant and unavoidable impacts attributable to ROG, NO_x , CO, and PM_{10} emissions, even after implementation of all feasible mitigation. However, as the emissions are greater than under the proposed project, the Alternative would result in greater impacts than the proposed project. Like the proposed project, no significant hot spots for CO, $\text{PM}_{2.5}$, or PM_{10} would occur as a result of the Alternative. Additionally, the Alternative (again, like the proposed project) would not result in significant cancer and non-cancer health risks attributable to DPM emissions.

Sincerely,



William Maddux
Senior Air Quality and Noise Specialist

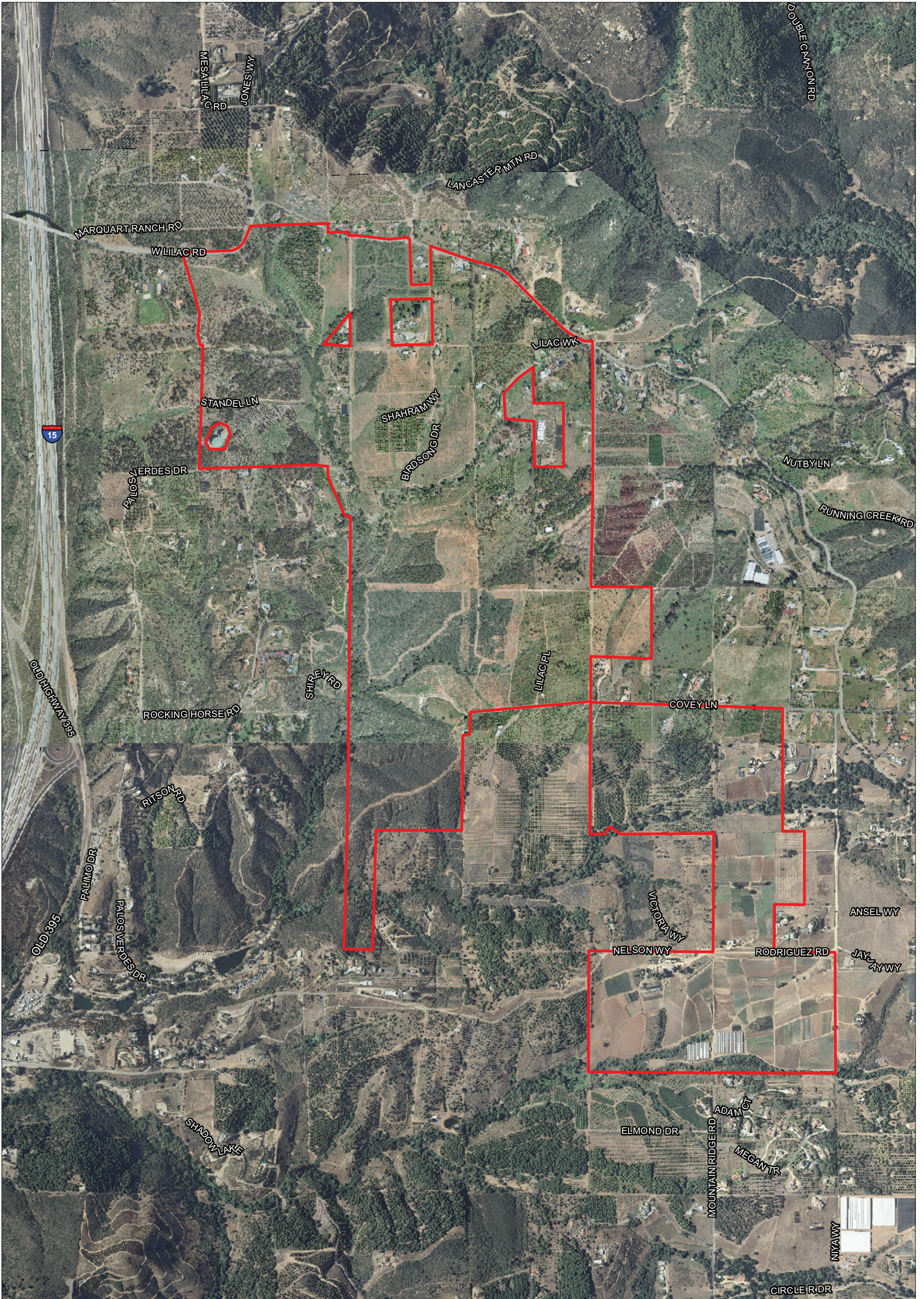
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 Project Location

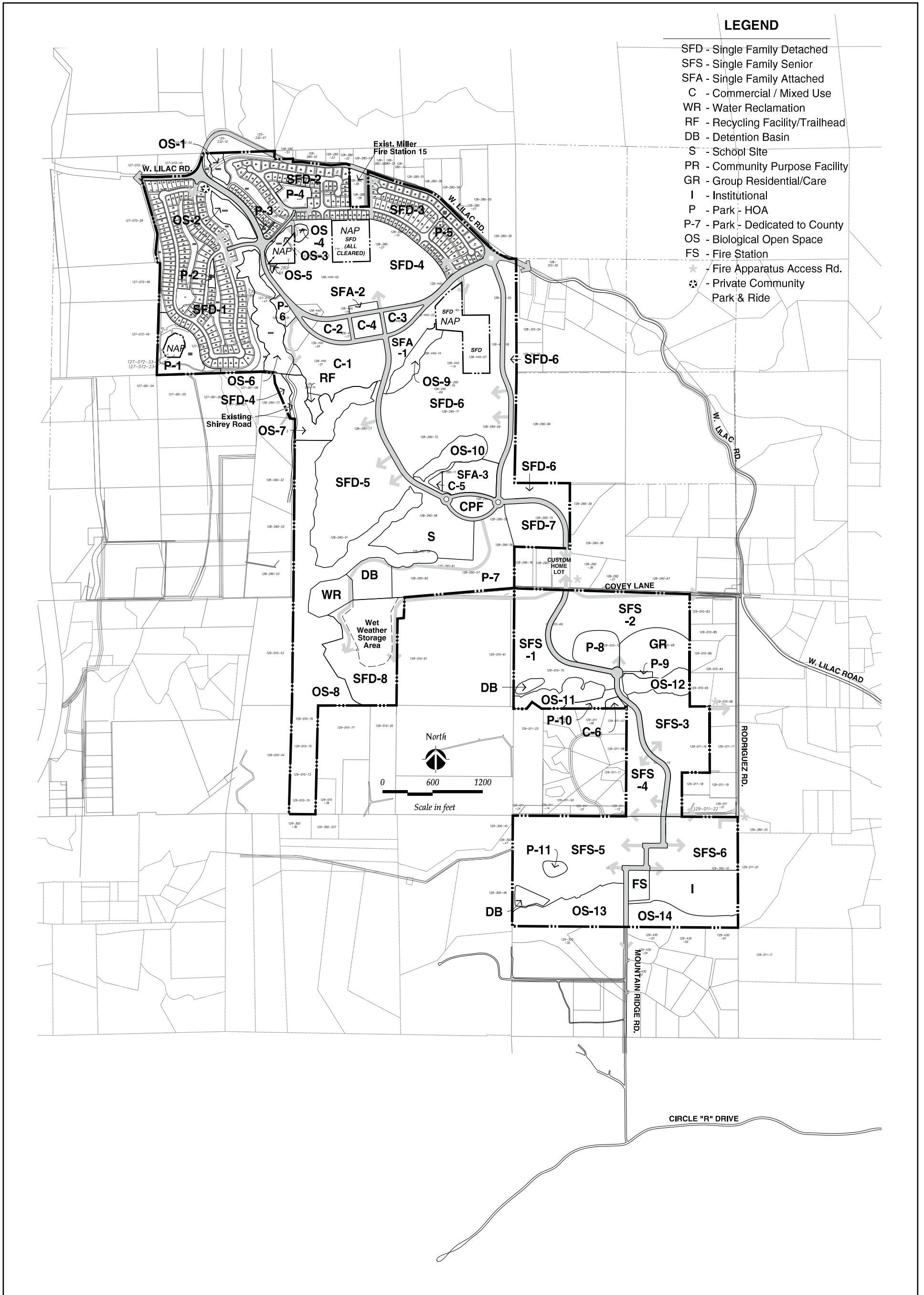
FIGURE 1

Regional Location



 Project Boundary

FIGURE 2
Project Location on an Aerial Photograph



LEGEND

- SFD - Single Family Detached
- SFS - Single Family Senior
- SFA - Single Family Attached
- C - Commercial / Mixed Use
- WR - Water Reclamation
- RF - Recycling Facility/Trailhead
- DB - Detention Basin
- S - School Site
- PR - Community Purpose Facility
- GR - Group Residential/Care
- I - Institutional
- P - Park - HOA
- P-7 - Park - Dedicated to County
- OS - Biological Open Space
- FS - Fire Station
- ★ - Fire Apparatus Access Rd.
- ⊙ - Private Community Park & Ride



FIGURE 3
Mountain Ridge Road Fire Station Alternative –
Land Use Plan

ATTACHMENT 1

ROADWAY CONSTRUCTION EMISSIONS DATA FILES

Road Construction Emissions Model, Version 7.1.5.1

Emission Estimates for -> Mountain Ridge Road												
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)		
Grubbing/Land Clearing	1.0	8.0	12.2	25.5	0.5	25.0	5.6	0.4	5.2	1,738.5		
Grading/Excavation	7.3	45.7	77.7	28.7	3.7	25.0	8.5	3.3	5.2	10,355.6		
Drainage/Utilities/Sub-Grade	5.6	34.3	54.9	27.8	2.8	25.0	7.8	2.6	5.2	7,088.9		
Paving	2.1	14.8	18.9	1.2	1.2	-	1.1	1.1	-	2,861.6		
Maximum (pounds/day)	7.3	45.7	77.7	28.7	3.7	25.0	8.5	3.3	5.2	10,355.6		
Total (tons/construction project)	0.4	2.2	3.7	1.6	0.2	1.4	0.5	0.2	0.3	487.7		
Notes: Project Start Year -> 2018 Project Length (months) -> 6 Total Project Area (acres) -> 6 Maximum Area Disturbed/Day (acres) -> 3 Total Soil Imported/Exported (yd ³ /day)-> 1442 PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified. Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.												
Emission Estimates for -> Mountain Ridge Road												
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)		
Grubbing/Land Clearing	0.5	3.6	5.5	11.6	0.2	11.4	2.6	0.2	2.4	790.2		
Grading/Excavation	3.3	20.8	35.3	13.0	1.7	11.4	3.9	1.5	2.4	4,707.1		
Drainage/Utilities/Sub-Grade	2.5	15.6	24.9	12.7	1.3	11.4	3.5	1.2	2.4	3,222.2		
Paving	0.9	6.7	8.6	0.6	0.6	-	0.5	0.5	-	1,300.7		
Maximum (kilograms/day)	3.3	20.8	35.3	13.0	1.7	11.4	3.9	1.5	2.4	4,707.1		
Total (megagrams/construction project)	0.3	2.0	3.3	1.4	0.2	1.3	0.4	0.1	0.3	442.4		
Notes: Project Start Year -> 2018 Project Length (months) -> 6 Total Project Area (hectares) -> 2 Maximum Area Disturbed/Day (hectares) -> 1 Total Soil Imported/Exported (meters ³ /day)-> 1102 PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified. Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.												

Road Construction Emissions Model

Version 7.1.5.1

Data Entry Worksheet

Note: Required data input sections have a yellow background.
 Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
 The user is required to enter information in cells C10 through C25.



Input Type

Project Name	Mountain Ridge Road	
Construction Start Year	2018	Enter a Year between 2009 and 2025 (inclusive)
Project Type	1	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	6.00	months
Predominant Soil/Site Type: Enter 1, 2, or 3	2	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.60	miles
Total Project Area	6.00	acres
Maximum Area Disturbed/Day	2.50	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	57.00	yd ³ /day
Soil Exported	1385.00	yd ³ /day
Average Truck Capacity	20	yd ³ (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005		2006		2007	
				%		%		%
Grubbing/Land Clearing		0.60	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		2.70	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		1.80	0.00	0.00	0.00	0.00	0.00	0.00
Paving		0.90	0.00	0.00	0.00	0.00	0.00	0.00
Totals	0.00	6.00						

NOTE: soil hauling emissions are included in the Grading/Excavation Construction Period Phase, therefore the Construction Period for Grading/Excavation cannot be zero if hauling is part of the project.

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions		User Override of					
User Input		Soil Hauling Defaults	Default Values				
Miles/round trip		3.00	30				
Round trips/day			72				
Vehicle miles traveled/day (calculated)				216.3			
Hauling Emissions		ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate (grams/mile)		0.15	6.66	0.67	0.16	0.09	1624.61
Emission rate (grams/trip)		0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day		0.07	3.17	0.32	0.07	0.04	774.02
Tons per construction period		0.00	0.09	0.01	0.00	0.00	22.99

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions		User Override of Worker					
		Commute Default Values	Default Values				
Miles/ one-way trip			20				
One-way trips/day			2				
No. of employees: Grubbing/Land Clearing			5				
No. of employees: Grading/Excavation			18				
No. of employees: Drainage/Utilities/Sub-Grade			15				
No. of employees: Paving			11				
		ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)		0.120	0.154	1.399	0.047	0.020	443.880
Emission rate - Grading/Excavation (grams/mile)		0.120	0.154	1.399	0.047	0.020	443.880
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)		0.120	0.154	1.399	0.047	0.020	443.880
Emission rate - Paving (grams/mile)		0.120	0.154	1.399	0.047	0.020	443.880
Emission rate - Grubbing/Land Clearing (grams/trip)		0.415	0.255	3.410	0.004	0.003	95.711
Emission rate - Grading/Excavation (grams/trip)		0.415	0.255	3.410	0.004	0.003	95.711
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)		0.415	0.255	3.410	0.004	0.003	95.711
Emission rate - Paving (grams/trip)		0.415	0.255	3.410	0.004	0.003	95.711
Pounds per day - Grubbing/Land Clearing		0.062	0.074	0.691	0.021	0.009	197.650
Tons per const. Period - Grub/Land Clear		0.000	0.000	0.005	0.000	0.000	1.304
Pounds per day - Grading/Excavation		0.217	0.258	2.419	0.072	0.031	691.775
Tons per const. Period - Grading/Excavation		0.006	0.008	0.072	0.002	0.001	20.546
Pounds per day - Drainage/Utilities/Sub-Grade		0.186	0.221	2.074	0.062	0.026	592.950
Tons per const. Period - Drain/Util/Sub-Grade		0.004	0.004	0.041	0.001	0.001	11.740
Pounds per day - Paving		0.140	0.166	1.555	0.047	0.020	444.713
Tons per const. Period - Paving		0.001	0.002	0.015	0.000	0.000	4.403
tons per construction period		0.012	0.014	0.133	0.004	0.002	37.993

Water truck default values can be overridden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values			
	Default # Water Trucks	Number of Water Trucks	Miles Traveled/Day	Miles Traveled/Day			
Grubbing/Land Clearing - Exhaust		1		40			
Grading/Excavation - Exhaust		1		40			
Drainage/Utilities/Subgrade		1		40			
	ROG	NOx	CO	PM10	PM2.5	CO2	
Emission rate - Grubbing/Land Clearing (grams/mile)	0.15	6.66	0.67	0.16	0.09	1624.61	
Emission rate - Grading/Excavation (grams/mile)	0.15	6.66	0.67	0.16	0.09	1624.61	
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.15	6.66	0.67	0.16	0.09	1624.61	
Pounds per day - Grubbing/Land Clearing	0.01	0.59	0.06	0.01	0.01	143.14	
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00	0.00	0.94	
Pound per day - Grading/Excavation	0.01	0.59	0.06	0.01	0.01	143.14	
Tons per const. Period - Grading/Excavation	0.00	0.02	0.00	0.00	0.00	4.25	
Pound per day - Drainage/Utilities/Subgrade	0.01	0.59	0.06	0.01	0.01	143.14	
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.01	0.00	0.00	0.00	2.83	

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max	Default	PM10	PM10	PM2.5	PM2.5
	Acreage Disturbed/Day	Maximum Acreage/Day	pounds/day	tons/per period	pounds/day	tons/per period
Fugitive Dust - Grubbing/Land Clearing		2.5	25.0	0.2	5.2	0.0
Fugitive Dust - Grading/Excavation		2.5	25.0	0.7	5.2	0.2
Fugitive Dust - Drainage/Utilities/Subgrade		2.5	25.0	0.5	5.2	0.1

Off-Road Equipment Emissions

Grubbing/Land Clearing	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2	
Override of Default Number of Vehicles	<i>Program-estimate</i>	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Crawler Tractors	0.66	4.47	8.32	0.31	0.29	824.93	
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Excavators	0.31	2.79	3.20	0.16	0.14	572.78	
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	
		Graders	0.00	0.00	0.00	0.00	0.00	0.00	
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00	
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00	
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00	
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	
		Welders	0.00	0.00	0.00	0.00	0.00	0.00	
		Grubbing/Land Clearing	pounds per day	1.0	7.3	11.5	0.5	0.4	1397.7
		Grubbing/Land Clearing	tons per phase	0.0	0.0	0.1	0.0	0.0	9.2

Grading/Excavation	Default		ROG	CO	NOx	PM10	PM2.5	CO2	
	Number of Vehicles	Type							
Override of Default Number of Vehicles	Program-estimate		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Crawler Tractors	0.66	4.47	8.32	0.31	0.29	824.93	
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
	3	Excavators	0.94	8.37	9.60	0.47	0.43	1718.33	
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Graders	0.87	3.46	8.31	0.47	0.43	667.39	
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00	
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00	
	2	Rollers	0.54	3.02	4.95	0.34	0.31	558.85	
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	
	1	Rubber Tired Loaders	0.44	3.11	5.26	0.18	0.16	662.49	
	2	Scrapers	2.37	14.51	28.08	1.11	1.02	3217.12	
1.00	2	Signal Boards	0.28	1.29	1.23	0.07	0.07	157.43	
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	
1.00		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Sweepers/Scrubbers	0.32	1.57	2.64	0.22	0.20	270.09	
	2	Tractors/Loaders/Backhoes	0.56	3.14	5.28	0.37	0.34	670.05	
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	
		Welders	0.00	0.00	0.00	0.00	0.00	0.00	
		Grading/Excavation	pounds per day	7.0	42.9	73.7	3.5	3.3	8746.7
		Grading	tons per phase	0.2	1.3	2.2	0.1	0.1	259.8

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles <i>Program-estimate</i>		ROG	CO	NOx	PM10	PM2.5	CO2
			pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Air Compressors	0.58	3.40	3.86	0.30	0.27	507.95
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Generator Sets	0.43	2.96	3.42	0.23	0.21	487.07
	1	Graders	0.87	3.46	8.31	0.47	0.43	667.39
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Plate Compactors	0.04	0.21	0.25	0.01	0.01	34.45
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pumps	0.36	2.44	2.83	0.19	0.18	396.14
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rough Terrain Forklifts	0.17	2.03	2.02	0.10	0.09	372.67
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	2	Scrapers	2.37	14.51	28.08	1.11	1.02	3217.12
0.00	2	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	2	Tractors/Loaders/Backhoes	0.56	3.14	5.28	0.37	0.34	670.05
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	5.4	32.2	54.1	2.8	2.5	6352.8
	Drainage	tons per phase	0.1	0.6	1.1	0.1	0.1	125.8

Paving	Default		ROG	CO	NOx	PM10	PM2.5	CO2
	Override of Default Number of Vehicles	Number of Vehicles <i>Program-estimate</i>						
			pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		1 Pavers	0.33	2.84	3.45	0.17	0.16	482.19
		1 Paving Equipment	0.24	2.69	2.59	0.13	0.12	426.37
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		3 Rollers	0.80	4.53	7.43	0.51	0.47	838.28
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	2 Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		2 Tractors/Loaders/Backhoes	0.56	3.14	5.28	0.37	0.34	670.05
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
		Paving pounds per day	1.9	13.2	18.8	1.2	1.1	2416.9
		Paving tons per phase	0.0	0.1	0.2	0.0	0.0	23.9
Total Emissions all Phases (tons per construction period) =>			0.3	2.1	3.5	0.2	0.2	418.7

Equipment default values for horsepower and hours/day can be overridden in cells C289 through C322 and E289 through E322.

Equipment		Default Values Horsepower		Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		106		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		10		8
Concrete/Industrial Saws		64		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		142		8
Excavators		163		8
Forklifts		89		8
Generator Sets		66		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		26		8
Pumps		53		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		20		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		45		8

0

END OF DATA ENTRY SHEET

Fire Station Access Alt - Unmitigated - 2020
 San Diego County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	4.5	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)		Utility Company	San Diego Gas & Electric
Climate Zone	13		2.6		
		Precipitation Freq (Days)			

1.3 User Entered Comments

40

- Project Characteristics -
- Land Use - per project plan
- Construction Phase - Construction Calculated aspart of whole project
- Off-road Equipment -
- Off-road Equipment - Construction Calculate Separtely
- Off-road Equipment -
- Off-road Equipment -
- Trips and VMT - Construction calculated seoerately
- Architectural Coating - Per SDAPCD Rule 67
- Vehicle Trips - per traffic report trip generation
- Woodstoves -
- Area Coating - SDAPCD Rule 67

- Energy Use - Appendix D General Industrial
- Water And Wastewater - per Appendix D General Industrial
- Solid Waste - Per Appendix D General Industrial
- Sequestration -
- Construction Off-road Equipment Mitigation - Tier III on all heavy equipment.
- Mobile Land Use Mitigation -
- Area Mitigation - PER SDAPCD Rule 67
- Energy Mitigation -
- Water Mitigation -
- Waste Mitigation -

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					
2018	3.53	25.31	19.54	0.04	6.76	1.44	7.95	3.31	1.44	4.51	0.00	3,972.04	0.00	0.32	0.00	3,978.66
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					
2018	6.29	20.17	21.50	0.04	2.63	1.53	3.96	1.29	1.53	2.62	0.00	3,972.04	0.00	0.32	0.00	3,978.66
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	0.12	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00			0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		17.10		0.00	0.00		17.20
Mobile	0.07	0.13	0.60	0.00	0.14	0.01	0.15	0.00	0.01	0.01		109.44		0.00			109.53
Total	0.19	0.14	0.61	0.00	0.14	0.01	0.15	0.00	0.01	0.01		126.54		0.00	0.00		126.73

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	0.11	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00			0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		15.13		0.00	0.00		15.22
Mobile	0.07	0.13	0.60	0.00	0.14	0.01	0.15	0.00	0.01	0.01		109.44		0.00			109.53
Total	0.18	0.14	0.61	0.00	0.14	0.01	0.15	0.00	0.01	0.01		124.57		0.00	0.00		124.75

3.0 Construction Detail

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Water Exposed Area
- Clean Paved Roads

3.2 Grading - 2018

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					6.55	0.00	6.55	3.31	0.00	3.31							0.00
Off-Road	3.47	25.24	18.86	0.04		1.19	1.19		1.19	1.19		3,827.58		0.31			3,834.06
Total	3.47	25.24	18.86	0.04	6.55	1.19	7.74	3.31	1.19	4.50		3,827.58		0.31			3,834.06

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	0.06	0.07	0.67	0.00	0.20	0.01	0.21	0.00	0.01	0.01		144.46		0.01			144.61
Total	0.06	0.07	0.67	0.00	0.20	0.01	0.21	0.00	0.01	0.01		144.46		0.01			144.61

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					2.56	0.00	2.56	1.29	0.00	1.29							0.00
Off-Road	2.82	18.02	20.83	0.04		1.32	1.32		1.32	1.32	0.00	3,827.58		0.31			3,834.06
Total	2.82	18.02	20.83	0.04	2.56	1.32	3.88	1.29	1.32	2.61	0.00	3,827.58		0.31			3,834.06

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	0.06	0.07	0.67	0.00	0.08	0.01	0.08	0.00	0.01	0.01		144.46		0.01		144.61
Total	0.06	0.07	0.67	0.00	0.08	0.01	0.08	0.00	0.01	0.01		144.46		0.01		144.61

3.3 Building Construction - 2018

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	3.26	19.06	18.02	0.04		1.05	1.05		1.05	1.05		3,233.11		0.29		3,239.22
Total	3.26	19.06	18.02	0.04		1.05	1.05		1.05	1.05		3,233.11		0.29		3,239.22

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	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	0.01	0.11	0.06	0.00	0.01	0.00	0.01	0.00	0.00	0.00		24.99		0.00		25.00
Worker	0.01	0.01	0.13	0.00	0.04	0.00	0.04	0.00	0.00	0.00		28.89		0.00		28.92
Total	0.02	0.12	0.19	0.00	0.05	0.00	0.05	0.00	0.00	0.00		53.88		0.00		53.92

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	6.27	20.05	19.75	0.04		1.52	1.52		1.52	1.52	0.00	3,233.11		0.29		3,239.22
Total	6.27	20.05	19.75	0.04		1.52	1.52		1.52	1.52	0.00	3,233.11		0.29		3,239.22

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	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	0.01	0.11	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00		24.99		0.00		25.00
Worker	0.01	0.01	0.13	0.00	0.02	0.00	0.02	0.00	0.00	0.00		28.89		0.00		28.92
Total	0.02	0.12	0.19	0.00	0.02	0.00	0.03	0.00	0.00	0.00		53.88		0.00		53.92

3.4 Paving - 2018

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	2.96	18.60	16.23	0.03		1.43	1.43		1.43	1.43		2,393.42		0.27		2,399.00
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	2.96	18.60	16.23	0.03		1.43	1.43		1.43	1.43		2,393.42		0.27		2,399.00

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
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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	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	
Worker	0.09	0.10	1.01	0.00	0.30	0.01	0.31	0.00	0.01	0.01		216.69		0.01	216.91	
Total	0.09	0.10	1.01	0.00	0.30	0.01	0.31	0.00	0.01	0.01		216.69		0.01	216.91	

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	2.06	12.37	15.25	0.03		1.24	1.24		1.24	1.24	0.00	2,393.42		0.27		2,399.00
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	2.06	12.37	15.25	0.03		1.24	1.24		1.24	1.24	0.00	2,393.42		0.27		2,399.00

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	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	0.09	0.10	1.01	0.00	0.12	0.01	0.13	0.00	0.01	0.01		216.69		0.01		216.91
Total	0.09	0.10	1.01	0.00	0.12	0.01	0.13	0.00	0.01	0.01		216.69		0.01		216.91

3.5 Architectural Coating - 2018

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
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Category	lb/day										lb/day					
Archit. Coating	2.92					0.00	0.00		0.00	0.00						0.00
Off-Road	0.30	2.00	1.85	0.00		0.15	0.15		0.15	0.15		281.19		0.03		281.75
Total	3.22	2.00	1.85	0.00		0.15	0.15		0.15	0.15		281.19		0.03		281.75

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	0.00	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

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	2.92					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	3.41	3.41	0.00		0.54	0.54		0.54	0.54	0.00	281.19		0.03		281.75
Total	3.37	3.41	3.41	0.00		0.54	0.54		0.54	0.54	0.00	281.19		0.03		281.75

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	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	0.00	0.00	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

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	0.07	0.13	0.60	0.00	0.14	0.01	0.15	0.00	0.01	0.01		109.44		0.00		109.53
Unmitigated	0.07	0.13	0.60	0.00	0.14	0.01	0.15	0.00	0.01	0.01		109.44		0.00		109.53
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	15.98	15.98	15.98	42,184	42,184
Total	15.98	15.98	15.98	42,184	42,184

4.3 Trip Type Information

Land Use	Miles			Trip %		
	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
User Defined Industrial	14.70	6.60	6.60	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive 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	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		15.13		0.00	0.00	15.22
NaturalGas Unmitigated	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		17.10		0.00	0.00	17.20
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					
User Defined Industrial	145.356	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		17.10		0.00	0.00	17.20
Total		0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		17.10		0.00	0.00	17.20

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				
User Defined Industrial	0.128564	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		15.13		0.00	0.00	15.22
Total		0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		15.13		0.00	0.00	15.22

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Electric Lawnmower
- Use Electric Leafblower
- Use Electric Chainsaw
- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior
- Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive 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	0.11	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.12	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00

Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
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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	0.02					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.10					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	0.12	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00

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	0.02					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.09					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	0.11	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Vegetation

Fire Station Access Alt - Unmitigated - 2020
San Diego County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	4.5	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)		Utility Company	San Diego Gas & Electric
Climate Zone	13		2.6		
		Precipitation Freq (Days)			
			40		

1.3 User Entered Comments

- Project Characteristics -
- Land Use - per project plan
- Construction Phase -
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment -
- Trips and VMT -
- Architectural Coating - Per SDAPCD Rule 67
- Vehicle Trips - per traffic report trip generation
- Woodstoves -
- Area Coating - SDAPCD Rule 67

- Energy Use - Appendix D General Industrial
- Water And Wastewater - per Appendix D General Industrial
- Solid Waste - Per Appendix D General Industrial
- Sequestration -
- Construction Off-road Equipment Mitigation - Tier III on all heavy equipment.
- Mobile Land Use Mitigation -
- Area Mitigation - PER SDAPCD Rule 67
- Energy Mitigation -
- Water Mitigation -
- Waste Mitigation -

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					
2018	3.53	25.32	19.48	0.04	6.76	1.44	7.95	3.31	1.44	4.51	0.00	3,960.77	0.00	0.31	0.00	3,967.39
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					
2018	6.30	20.17	21.45	0.04	2.63	1.53	3.96	1.29	1.53	2.62	0.00	3,960.77	0.00	0.31	0.00	3,967.39
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	0.12	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00			0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		17.10		0.00	0.00		17.20
Mobile	0.07	0.14	0.60	0.00	0.14	0.01	0.15	0.00	0.01	0.01		102.48		0.00			102.57
Total	0.19	0.15	0.61	0.00	0.14	0.01	0.15	0.00	0.01	0.01		119.58		0.00	0.00		119.77

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	0.11	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00			0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		15.13		0.00	0.00		15.22
Mobile	0.07	0.14	0.60	0.00	0.14	0.01	0.15	0.00	0.01	0.01		102.48		0.00			102.57
Total	0.18	0.15	0.61	0.00	0.14	0.01	0.15	0.00	0.01	0.01		117.61		0.00	0.00		117.79

3.0 Construction Detail

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use DPF for Construction Equipment
- Water Exposed Area
- Clean Paved Roads

3.2 Grading - 2018

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					6.55	0.00	6.55	3.31	0.00	3.31							0.00
Off-Road	3.47	25.24	18.86	0.04		1.19	1.19		1.19	1.19		3,827.58		0.31			3,834.06
Total	3.47	25.24	18.86	0.04	6.55	1.19	7.74	3.31	1.19	4.50		3,827.58		0.31			3,834.06

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	0.07	0.07	0.62	0.00	0.20	0.01	0.21	0.00	0.01	0.01		133.19		0.01			133.33
Total	0.07	0.07	0.62	0.00	0.20	0.01	0.21	0.00	0.01	0.01		133.19		0.01			133.33

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					2.56	0.00	2.56	1.29	0.00	1.29							0.00
Off-Road	2.82	18.02	20.83	0.04		1.32	1.32		1.32	1.32	0.00	3,827.58		0.31			3,834.06
Total	2.82	18.02	20.83	0.04	2.56	1.32	3.88	1.29	1.32	2.61	0.00	3,827.58		0.31			3,834.06

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	0.07	0.07	0.62	0.00	0.08	0.01	0.08	0.00	0.01	0.01		133.19		0.01		133.33
Total	0.07	0.07	0.62	0.00	0.08	0.01	0.08	0.00	0.01	0.01		133.19		0.01		133.33

3.3 Building Construction - 2018

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	3.26	19.06	18.02	0.04		1.05	1.05		1.05	1.05		3,233.11		0.29		3,239.22
Total	3.26	19.06	18.02	0.04		1.05	1.05		1.05	1.05		3,233.11		0.29		3,239.22

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	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	0.01	0.11	0.08	0.00	0.01	0.00	0.01	0.00	0.00	0.00		24.76		0.00		24.77
Worker	0.01	0.01	0.12	0.00	0.04	0.00	0.04	0.00	0.00	0.00		26.64		0.00		26.67
Total	0.02	0.12	0.20	0.00	0.05	0.00	0.05	0.00	0.00	0.00		51.40		0.00		51.44

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	6.27	20.05	19.75	0.04		1.52	1.52		1.52	1.52	0.00	3,233.11		0.29		3,239.22
Total	6.27	20.05	19.75	0.04		1.52	1.52		1.52	1.52	0.00	3,233.11		0.29		3,239.22

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	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	0.01	0.11	0.08	0.00	0.00	0.00	0.01	0.00	0.00	0.00		24.76		0.00		24.77
Worker	0.01	0.01	0.12	0.00	0.02	0.00	0.02	0.00	0.00	0.00		26.64		0.00		26.67
Total	0.02	0.12	0.20	0.00	0.02	0.00	0.03	0.00	0.00	0.00		51.40		0.00		51.44

3.4 Paving - 2018

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	2.96	18.60	16.23	0.03		1.43	1.43		1.43	1.43		2,393.42		0.27		2,399.00
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	2.96	18.60	16.23	0.03		1.43	1.43		1.43	1.43		2,393.42		0.27		2,399.00

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
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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	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	
Worker	0.10	0.11	0.93	0.00	0.30	0.01	0.31	0.00	0.01	0.01		199.78		0.01	199.99	
Total	0.10	0.11	0.93	0.00	0.30	0.01	0.31	0.00	0.01	0.01		199.78		0.01	199.99	

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	2.06	12.37	15.25	0.03		1.24	1.24		1.24	1.24	0.00	2,393.42		0.27		2,399.00
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	2.06	12.37	15.25	0.03		1.24	1.24		1.24	1.24	0.00	2,393.42		0.27		2,399.00

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	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	0.10	0.11	0.93	0.00	0.12	0.01	0.13	0.00	0.01	0.01		199.78		0.01		199.99
Total	0.10	0.11	0.93	0.00	0.12	0.01	0.13	0.00	0.01	0.01		199.78		0.01		199.99

3.5 Architectural Coating - 2018

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
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Category	lb/day										lb/day					
Archit. Coating	2.92					0.00	0.00		0.00	0.00						0.00
Off-Road	0.30	2.00	1.85	0.00		0.15	0.15		0.15	0.15		281.19		0.03		281.75
Total	3.22	2.00	1.85	0.00		0.15	0.15		0.15	0.15		281.19		0.03		281.75

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	0.00	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

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	2.92					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	3.41	3.41	0.00		0.54	0.54		0.54	0.54	0.00	281.19		0.03		281.75
Total	3.37	3.41	3.41	0.00		0.54	0.54		0.54	0.54	0.00	281.19		0.03		281.75

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	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	0.00	0.00	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

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	0.07	0.14	0.60	0.00	0.14	0.01	0.15	0.00	0.01	0.01		102.48		0.00		102.57
Unmitigated	0.07	0.14	0.60	0.00	0.14	0.01	0.15	0.00	0.01	0.01		102.48		0.00		102.57
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	15.98	15.98	15.98	42,184	42,184
Total	15.98	15.98	15.98	42,184	42,184

4.3 Trip Type Information

Land Use	Miles			Trip %		
	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
User Defined Industrial	14.70	6.60	6.60	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive 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	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		15.13		0.00	0.00	15.22
NaturalGas Unmitigated	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		17.10		0.00	0.00	17.20
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					
User Defined Industrial	145.356	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		17.10		0.00	0.00	17.20
Total		0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		17.10		0.00	0.00	17.20

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				
User Defined Industrial	0.128564	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		15.13		0.00	0.00	15.22
Total		0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00		15.13		0.00	0.00	15.22

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Electric Lawnmower
- Use Electric Leafblower
- Use Electric Chainsaw
- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior
- Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive 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	0.11	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.12	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00

Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
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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	0.02					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.10					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	0.12	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00

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	0.02					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.09					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	0.11	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Vegetation

TITLE: LILAC HRA

***** VOLUME PARAMETERS *****

SOURCE EMISSION RATE: 0.0443 g/s 0.351 lb/hr
VOLUME HEIGHT: 12.00 meters 39.37 feet
INITIAL LATERAL DIMENSION: 650.00 meters 2132.55 feet
INITIAL VERTICAL DIMENSION: 650.00 meters 2132.55 feet
RURAL OR URBAN: RURAL

FLAGPOLE RECEPTOR HEIGHT: 1.52 meters 4.99 feet
INITIAL PROBE DISTANCE = 5000. meters 16404. feet

***** BUILDING DOWNWASH PARAMETERS *****

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

***** PROBE ANALYSIS *****
25 meter receptor spacing: 1399. meters - 5000. meters

Zo SECTOR	ROUGHNESS LENGTH	1-HR CONC (ug/m3)	DIST (m)	TEMPORAL PERIOD
1*	0.010	2.071	1398.5	WIN

* = worst case flow sector

***** MAKEMET METEOROLOGY PARAMETERS *****

MIN/MAX TEMPERATURE: 276.0 / 304.4 (K)
MINIMUM WIND SPEED: 0.5 m/s
ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Cultivated Land
DOMINANT CLIMATE TYPE: Dry Conditions
DOMINANT SEASON: Winter

ALBEDO: 0.60
BOWEN RATIO: 2.00
ROUGHNESS LENGTH: 0.010 (meters)

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR MO DY JDY HR
 10 01 01 1 12

HO	U*	W*	DT/DZ	ZI CNV	ZIMCH	M-O	LEN	ZO	BOWEN	ALBEDO	REF	WS
1.89	0.039	0.100	0.020	18.	18.	-2.8	0.010	2.00	0.60	0.50		
HT	REF	TA	HT									
10.0	276.0	2.0										

METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR MO DY JDY HR
 10 01 01 1 12

HO	U*	W*	DT/DZ	ZI CNV	ZIMCH	M-O	LEN	ZO	BOWEN	ALBEDO	REF	WS
1.89	0.039	0.100	0.020	18.	18.	-2.8	0.010	2.00	0.60	0.50		
HT	REF	TA	HT									
10.0	276.0	2.0										

***** AERSCREEN AUTOMATED DISTANCES *****
 OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
1398.50	2.071	3200.00	1.843
1400.00	2.071	3225.00	1.841
1425.00	2.066	3250.00	1.838
1450.00	2.062	3275.00	1.836
1475.00	2.058	3300.00	1.833
1500.00	2.053	3325.00	1.831
1525.00	2.049	3350.00	1.828
1550.00	2.045	3375.00	1.825
1575.00	2.041	3400.00	1.823
1600.00	2.037	3425.00	1.820
1625.00	2.033	3450.00	1.818
1650.00	2.030	3475.00	1.815
1675.00	2.026	3500.00	1.813
1700.00	2.022	3525.00	1.810
1725.00	2.018	3550.00	1.808
1750.00	2.015	3575.00	1.805
1775.00	2.011	3600.00	1.803
1800.00	2.008	3625.00	1.800
1825.00	2.004	3650.00	1.798
1850.00	2.001	3675.00	1.796

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1875.00	1.997	3700.00	1.793
1900.00	1.994	3725.00	1.791
1925.00	1.990	3750.00	1.788
1950.00	1.987	3775.00	1.786
1975.00	1.984	3800.00	1.783
2000.00	1.980	3825.00	1.781
2025.00	1.977	3850.00	1.778
2050.00	1.974	3875.00	1.776
2075.00	1.971	3900.00	1.774
2100.00	1.967	3925.00	1.771
2125.00	1.964	3950.00	1.769
2150.00	1.961	3975.00	1.766
2175.00	1.958	4000.00	1.764
2200.00	1.955	4025.00	1.762
2225.00	1.952	4050.00	1.759
2250.00	1.949	4075.00	1.757
2275.00	1.946	4100.00	1.755
2300.00	1.943	4125.00	1.752
2325.00	1.940	4150.00	1.750
2350.00	1.937	4175.00	1.748
2375.00	1.934	4200.00	1.745
2400.00	1.931	4225.00	1.743
2425.00	1.928	4250.00	1.740
2450.00	1.925	4275.00	1.738
2475.00	1.922	4300.00	1.736
2500.00	1.919	4325.00	1.734
2525.00	1.916	4350.00	1.731
2550.00	1.913	4375.00	1.729
2575.00	1.911	4400.00	1.727
2600.00	1.908	4425.00	1.724
2625.00	1.905	4450.00	1.722
2650.00	1.902	4475.00	1.720
2675.00	1.899	4500.00	1.717
2700.00	1.897	4525.00	1.715
2725.00	1.894	4550.00	1.713
2750.00	1.891	4575.00	1.711
2775.00	1.888	4600.00	1.708
2800.00	1.886	4625.00	1.706
2825.00	1.883	4650.00	1.704
2850.00	1.880	4675.00	1.701
2875.00	1.878	4700.00	1.699
2900.00	1.875	4725.00	1.697
2925.00	1.872	4750.00	1.695
2950.00	1.870	4775.00	1.692
2975.00	1.867	4800.00	1.690
3000.00	1.864	4825.00	1.688
3025.00	1.862	4850.00	1.686
3050.00	1.859	4875.00	1.683
3075.00	1.856	4900.00	1.681
3100.00	1.854	4925.00	1.679
3125.00	1.851	4950.00	1.677
3150.00	1.848	4975.00	1.675
3175.00	1.846	5000.00	1.672

***** AERSCREEN MAXIMUM IMPACT SUMMARY *****

CALCULATION	MAXIMUM 1-HOUR CONC	SCALED 3-HOUR CONC	SCALED 8-HOUR CONC	SCALED 24-HOUR CONC	SCALED ANNUAL CONC
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PROCEDURE	(ug/m3)	l i l a c 2 . o u t (ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)
FLAT TERRAIN	2.071	2.071	1.864	1.243	0.2071
DISTANCE FROM SOURCE	1398.50 meters				
IMPACT AT THE AMBIENT BOUNDARY	2.071	2.071	1.864	1.243	0.2071
DISTANCE FROM SOURCE	1398.50 meters				