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May 16, 2014

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).*

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

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*The 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 3,000 square feet of livable space with two, dual-stacked engine bays equal to 1,500 square feet. 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).* 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, nor would it change the emissions associated with operations of buildings. However, the Alternative would result in a different set of construction-related assumptions due to the designation and improvement of Mountain Ridge Road as a County public road, in lieu of the proposed project's private road designation. Thus, this analysis focuses on the potential air quality impacts related to construction of the Alternative's improvements to Mountain Ridge Road and localized air quality along the future Mountain Ridge Road.

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.

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* A 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 PM_{10} that exceed 100 pounds per day and increase the ambient PM_{10} concentration by 5.0 µg/m^3 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 (PM_{10}, $PM_{2.5}$, 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.

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

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 approximately 20 acres with a daily disturbance of 5 acres.

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

Based on the *Lilac Hills Ranch Mountain Ridge Road Fire Station Alternative Traffic Impact Analysis* (Chen Ryan 2014), the Alternative would result in a negligible additional trip generation of 16 average daily trips and the proposed improvements to Mountain Ridge Road would not change any proposed land uses, other than relocating the fire station from Phase 3 to Phase 5. Additionally, as the Alternative proposes the same land uses as the proposed project, the Alternative would have the same impacts relative to consistency with the RAQS as proposed project.

The Alternative would allow access to the project site from Mountain Ridge Road and relocate the fire station to the southern portion of the project site. None of the proposed changes would change the odor impacts of the proposed project. Thus, with the exception of potential localized air quality impacts from vehicular operation on Mountain Ridge Road, no other operational emission changes would occur under the Alternative relative to the proposed project.

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 PM2.5 and PM10 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 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 1, the construction of Mountain Ridge Road alone would not exceed the County's thresholds. However, the construction of Mountain Ridge Road 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 1
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						
Mountain Ridge Road	7.3	77.5	45.6	0.0	28.6	8.4
Phases 3 and 5[2]	34.0	240.6	454.7	10.3	**449.6**	**99.2**
Subtotal	41.3	**318.1**	500.3	10.3	**478.2**	**107.6**
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; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter; SLT = Screening Level Threshold
[1]Emissions reported are maximum daily emissions from each construction scenario regardless of the construction stage, e.g., maximum PM_{10} 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.
[2]Includes emissions from blasting activities.

Operation Impacts

The Alternative's operational impacts would be the same as the proposed project's operational impacts. Specifically, land uses under the Alternative would be the same as the proposed project, except the proposed fire station would be moved from Phase 3 to Phase 5. This would have little effect on operation emissions,* considering both the proposed project and the Alternative would involve a temporary fire station as a part of Phase 1 construction until the permanent station is constructed. The Mountain Ridge Road improvements would not change the number of trips generated or stationary source emissions as compared to the proposed project, and would have no additional impacts on operational air quality emissions. As such, the operational emissions generated by the Alternative would be same as the proposed project and mitigation would be the same as described in the Air Quality Report (RECON 2014).

Combined Construction + Operation Impacts

Construction of Mountain Ridge Road would occur in Phase 5 when other phases are in differing stages of operation and construction. As shown in Table 2, when operation emissions from previously completed phases (Traffic Scenario C [Phases 1, 2, and 4]) are combined with the construction of Mountain Ridge Road 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) (Table 2). 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, PM_{10}, and $PM_{2.5}$ in the combined construction and operational conditions, the Alternative's exceedance would be greater than the proposed project's exceedance due to the emissions associated with construction of the improvements to Mountain Ridge Road.

TABLE 2
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						
Traffic Scenario C + Phases 3 and 5	**163.5**	**463.3**	**1272.8**	11.5	**618.3**	**117.7**
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; SOx = sulfur oxides; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter; SLT = Screening Level Threshold
[1] Emissions reported are maximum daily emissions from all phases.

*The total stationary sources under full operation for both the Alternative and the proposed project would be same.

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, PM_{10}, and $PM_{2.5}$ would be below the SLT. However, NO_x would remain above the SLT after mitigation (Table 3). 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 3
COMPARISON OF MITIGATED CONSTRUCTION EMISSIONS FOR THE PROPOSED PROJECT AND MOUNTAIN RIDGE ROAD FIRE STATION ALTERNATIVE (lbs/day)[1]

Source	ROG	NO_X	CO	SOx	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						
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	43.4	**281.2**	519.6	10.3	82.2	24.9
SLT	75	250	550	250	100	55
Significant Impact?	No	Yes	N0	No	No	No

ROG =reactive organic gases; NO_X = oxides of nitrogen; CO = carbon monoxide; SOx = sulfur oxides; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter; SLT = Screening Level Threshold
[1]Emissions reported are maximum daily emissions from each construction scenario regardless of the construction stage, e.g. maximum PM_{10} 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 4 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 SOx and $PM_{2.5}$. Thus, the significant $PM_{2.5}$ impact would be mitigated to levels below significant, but ROG, NO_X, CO, and PM_{10} 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 4
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	SOx	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						
Traffic Scenario C + Phases 3 and 5	**164.4**	**423.3**	**1277.4**	11.5	**218.7**	34.8
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; SOx = sulfur oxides; PM_{10} = suspended particulate matter; $PM_{2.5}$ = fine particulate matter; SLT = Screening Level Threshold
[1]Emissions 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, PM_{10}, 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 3 and 4, 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 PM_{10} 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 be the same as that identified for 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 PM_{10} 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 PM_{10} 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 PM_{10} values from annual emission estimates. The Alternative would generate an additional 0.2 ton of exhaust PM_{10} annually, relative to the proposed project, due to the additional Mountain Ridge Road improvements. With the additional PM_{10} emissions, the Alternative's concentration of exhaust PM_{10} would be 0.206 microgram per square meter relative to the proposed project's 0.191 microgram per square 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 7.49 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***.

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 $\mu g/m^3$ 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 0.2058µg/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 µg/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-related emissions during Phase 5 of project development due to construction of the improvements to Mountain Ridge Road. Those additional construction emissions would lead to a significant unavoidable NOx 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 $PM_{2.5}$ construction impacts in Phases 3 and 5. Additionally, the Alternative's Phases 3 and 5 construction emissions combined with the operation of 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, $PM_{2.5}$, 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

WAM:sh

FIGURE 1

Regional Location

RECON

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Image source: SanGIS (flown May 2012)

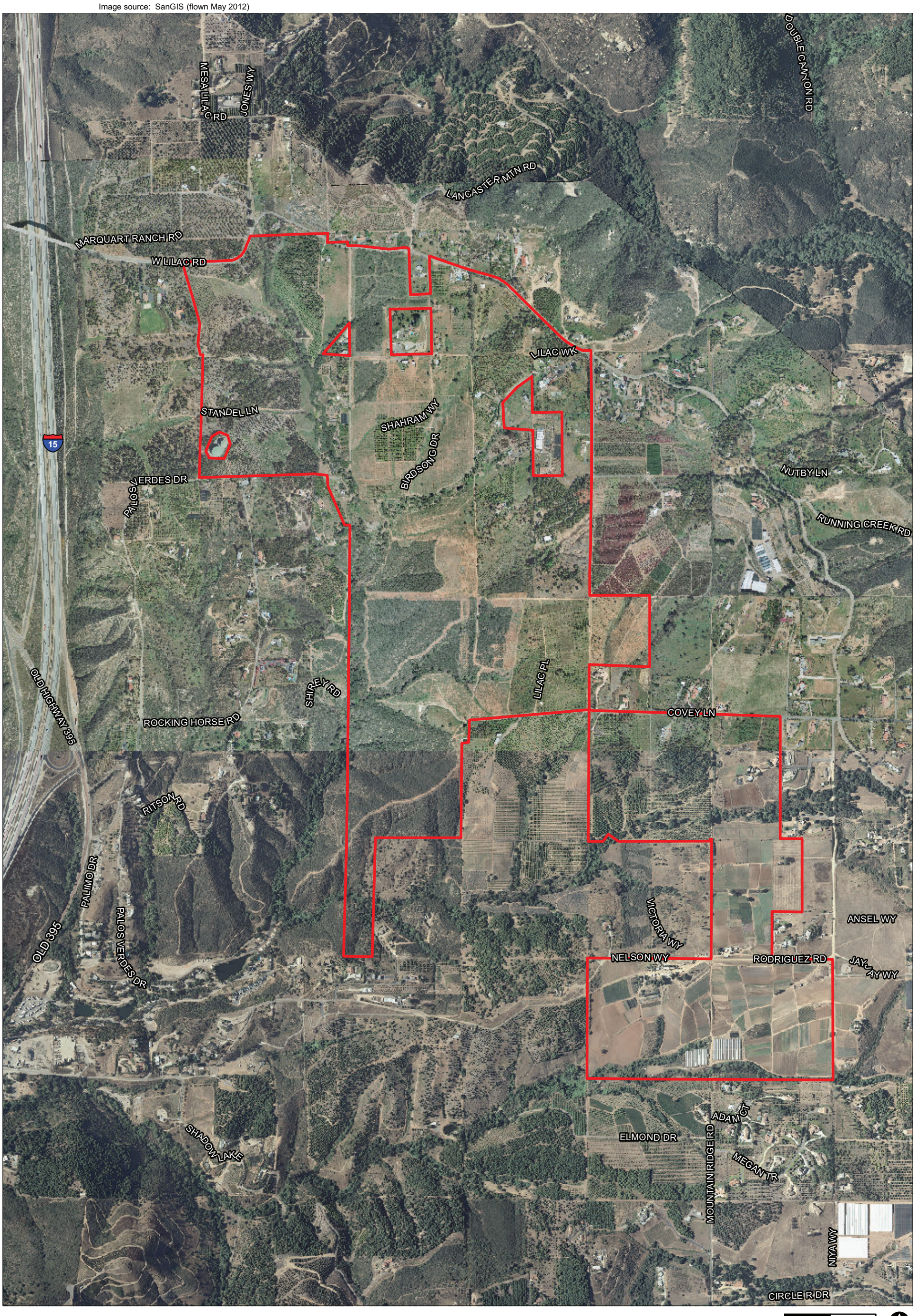

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FIGURE 2

Project Location on an Aerial Photograph

Map Source: Development Design Services

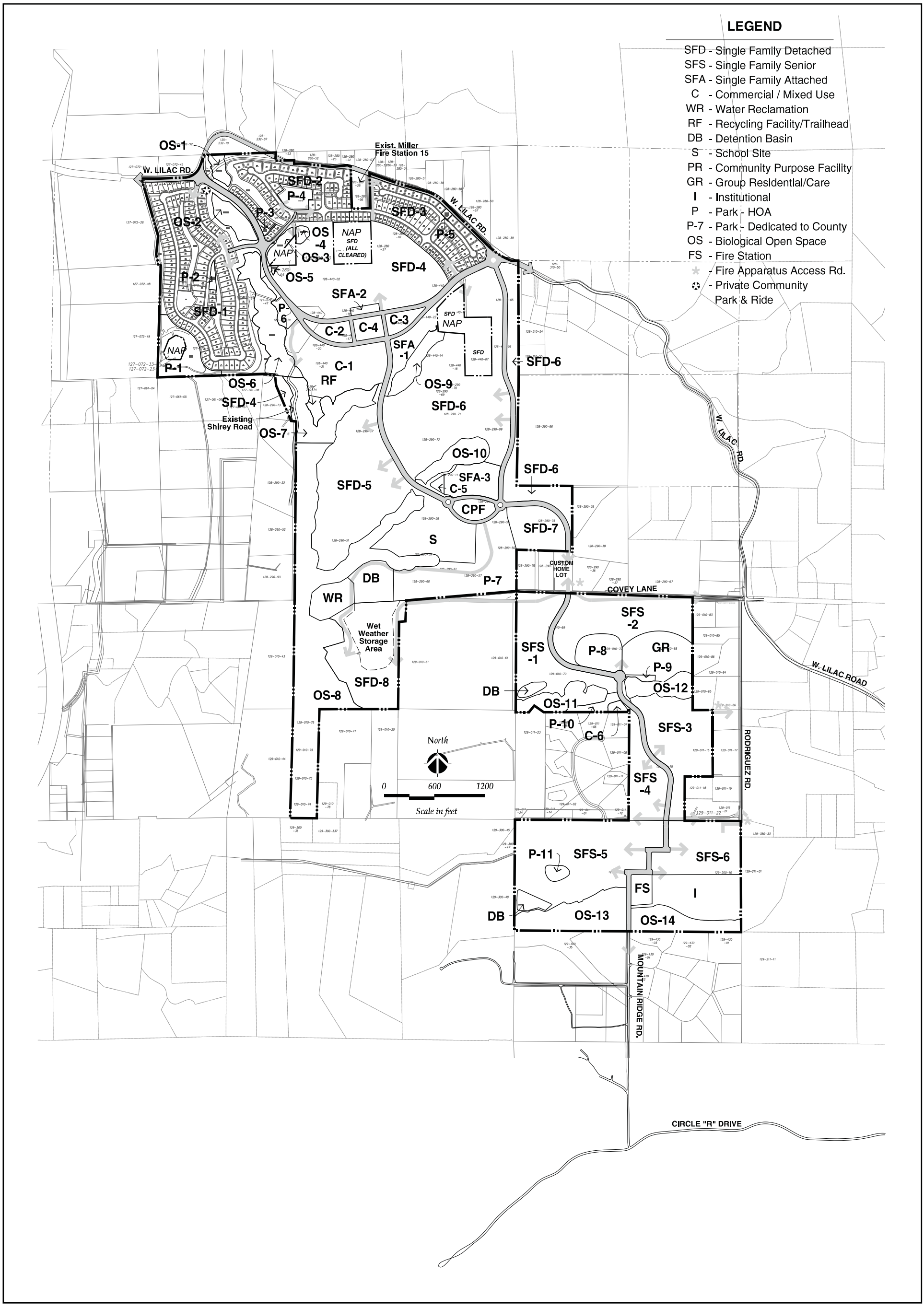

FIGURE 3
Mountain Ridge Road Fire Station Alternative – Land Use Plan

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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	6.7	43.0	75.1	28.4	3.4	25.0	8.3	3.1	5.2	10,227.6
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)	6.7	43.0	75.1	28.4	3.4	25.0	8.3	3.1	5.2	10,227.6
Total (tons/construction project)	0.3	2.2	3.6	1.6	0.2	1.4	0.4	0.2	0.3	483.9

Notes:

Project Start Year ->	2018
Project Length (months) ->	6
Total Project Area (acres) ->	20
Maximum Area Disturbed/Day (acres) ->	3
Total Soil Imported/Exported (yd^3/day)->	200

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	3.0	19.5	34.1	12.9	1.6	11.4	3.8	1.4	2.4	4,648.9
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)	3.0	19.5	34.1	12.9	1.6	11.4	3.8	1.4	2.4	4,648.9
Total (megagrams/construction project)	0.3	2.0	3.2	1.4	0.2	1.3	0.4	0.1	0.3	438.9

Notes:

Project Start Year ->	2018
Project Length (months) ->	6
Total Project Area (hectares) ->	8
Maximum Area Disturbed/Day (hectares) ->	1
Total Soil Imported/Exported ($meters^3$/day)->	153

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 sume 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.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

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.

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	20.00	acres
Maximum Area Disturbed/Day	2.50	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	100.00	yd^3/day
Soil Exported	100.00	yd^3/day
Average Truck Capacity	20	yd^3 (assume 20 if unknown)

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
Grubbing/Land Clearing		0.60
Grading/Excavation		2.70
Drainage/Utilities/Sub-Grade		1.80
Paving		0.90
Totals	0.00	6.00

2005	%	2006	%	2007	%
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00

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 Input	User Override of Soil Hauling Defaults	Default Values
Miles/round trip		30
Round trips/day		10
Vehicle miles traveled/day (calculated)		300

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	0.10	4.40	0.44	0.10	0.06	1073.53
Tons per contruction period	0.00	0.13	0.01	0.00	0.00	31.88

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 overriden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values 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 Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 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	*Program-estimate*	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	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
		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 Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	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
	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
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
	Grading/Excavation	pounds per day	6.4	40.1	69.8	3.2	3.0	8319.2
	Grading	tons per phase	0.2	1.2	2.1	0.1	0.1	247.1

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 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 Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	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
		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	2.0	3.4	0.2	0.2	406.0

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

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END OF DATA ENTRY SHEET