(1) **Airborne Dust Beyond the Property Line:** No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period.

(2) **Track-Out/Carry-Out:** Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:

(i) be minimized by the use of any of the following or equally effective trackout/ carry-out and erosion control measures that apply to the Project or operation:

a. track-out grates or gravel beds at each egress point,
b. wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks;
c. secured tarps or cargo covering, watering, or treating of transported material; and

(ii) be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only PM_{10}-efficient street sweepers certified to meet the most current South Coast Air Quality Management District (SCAQMD) Rule 1186 requirements shall be used. The use of blowers for removal of track-out/ carry-out is prohibited under any circumstances.

The control measures listed below are the BMPs that the Project would incorporate for dust control as well as minimizing pollutant emissions from diesel equipment:

- A minimum of two applications of water during grading between dozer/scraper passes.
- Paving, chip sealing or chemical stabilization of internal roadways after completion of grading.
- Use of sweepers or water trucks to remove "track-out" at any point of public street access.
- Termination of grading if winds exceed 25 miles per hour (mph).
- Dirt storage piles will be stabilized by chemical binders, tarps, fencing or other erosion control.
- Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible and as directed by the County and/or SDAPCD to reduce dust generation.
- A 15-mph speed limit will be enforced on unpaved surfaces.
- On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather.

- The Project will use building products that have at least a 10 percent recycled content.
- The Project will require the construction fleet to use any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters and utilize CARB/U.S. Environmental Protection Agency (USEPA) Engine Certification Tier 4, or other equivalent methods approved by the CARB.
- Use of low-VOC coatings in accordance with SDAPCD Rule 67.
- Any blasting areas would be wet down prior to initiating the blast.

Operational

The Proposed Project would incorporate the following Project design features in order to improve operational efficiencies and reduce emissions:

- Energy efficiency in compliance with 2013 Title 24 standards, which exceeds the 2008 Title 24 standards by a minimum of 15 percent.
- Installation of advanced plumbing systems, such as parallel hot water piping or hot water recirculation systems, and fixtures such as ultra-low flow toilets, water-saving showerheads and kitchen faucets, and buyer-optional high-efficiency clothes washers.
- Residential construction would only allow natural gas fireplaces.
- Educational materials (such as brochures) that provide information regarding the use of low-VOC paints and consumer products shall be provided in every residence.

The WTWRF would implement, at a minimum, the following odor control measures:

- All WTWRF facilities, including the wet weather pond, would be covered to avoid uncontrolled odor release.
- Active odor control units would be located to manage gases from the wet and solids stream treatment processes.
- All processes and equipment would be housed (or otherwise contained) and ventilation controlled such that no objectionable odors would be discernible at the Project site boundaries.
- A misting system with odor neutralizing liquids to break down the foul smelling chemical compounds in the biogases would be installed.
- Bio filters would be utilized to capture odor causing compounds in a media bed where they are oxidized by naturally occurring micro-organisms.
- Wastewater operators would routinely check the digester pressure relief valves to make sure they are not venting to the outdoors and that the waste gas burner is performing optimally.

1.4 Air Quality Assessment

This air quality assessment includes a discussion of applicable significance criteria and analysis methodologies outlined in the County's "Guidelines for Determining Significance—Air Quality" guidance document. Based on this guidance document, this assessment evaluates the short-term construction-period and long-term operational period impacts to localized and regional air quality that would result with development of the Project.

2.0 EXISTING CONDITIONS

2.1 Existing Setting

The Project site is located south of SR-78 and west of I-15 in a semi-rural area encompassing a mix of urban development, agriculture, and open space. Nearby urban development includes high-density residential and commercial uses to the north (San Marcos) and east (Escondido), with nearby areas to the north, west and south encompassing agricultural uses, low- to moderate density residential development and open space.

2.2 Climate / Meteorology and Temperature Inversions

The Project site is located in the San Diego Air Basin (SDAB). The climate of San Diego County is characterized by hot, dry summers and mild, wet winters and is dominated by a semi-permanent, high-pressure cell located over the Pacific Ocean. Wind monitoring data recorded at the Escondido monitoring station indicates that the predominant wind direction in the vicinity of the Project site is from the west. Wind speeds over the project region average 1.7 meters per second (m/s) or 5.58 feet per second (f/s). The annual average temperature in the project area is approximately 55 degrees Fahrenheit (ºF) during the winter and approximately 74ºF during the summer. Total precipitation in the project area averages approximately 16.2 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center 2012).

The atmospheric conditions of the SDAB contribute to the region's air quality problems. The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality. Subsidence inversions occur during the warmer months as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools through radiation and the air aloft remain warm. The shallow inversion layer formed between these two air masses can also trap pollutants.

Due to its climate, the SDAB experiences frequent temperature inversions. Typically, temperature decreases with height. However, under inversion conditions, temperature increases as altitude increases. Temperature inversions prevent air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and nitrogen dioxide (NO_2) react under strong sunlight, creating smog. Light, daytime winds, predominately from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and NO_2 emissions. High NO_2 levels usually occur during autumn or winter, on days with summer-like conditions.

It should be noted that the smog level under the inversion base is not static. It moves up and down during the day. The base of the inversion is determined by the balance of forces between convection (upward motion in the mixed layer) and subsidence (downward motion from aloft). Throughout the year, the elevation of the temperature inversion within the SDAB in the afternoon varies between approximately 1,500 and 2,500 feet above mean sea level (AMSL). In winter, the morning inversion layer is about 800 feet AMSL. In summer, the morning inversion layer is about 1,100 feet AMSL. Therefore, air quality tends to be better in winter than in summer because there is a greater change in the morning and afternoon mixing depths, allowing the dispersal of "trapped" pollutants. Elevations within the Project area range from approximately 614 feet to 1,013 feet AMSL. The finished grade would range from approximately 810 feet in the northwestern area to 685 feet in the southeastern area.

High air pollution levels in coastal communities of San Diego often occur when polluted air from the South Coast Air Basin, particularly Los Angeles, travels southwest over the ocean at night, and is brought onshore into San Diego by the sea breeze during the day. Smog transported from the Los Angeles area is a key factor on more than 50 percent of the days San Diego exceeds clean air standards. Ozone (O_3) and precursor emissions are transported to San Diego during relatively mild Santa Ana weather conditions. However, during strong Santa Ana weather conditions, pollutants are pushed far out to sea and miss San Diego. When smog is blown in from the SDAB at ground level, the highest O_3 concentrations are measured at coastal and near-coastal monitoring stations. When the transported smog is elevated, coastal sites may be passed over, and the transported ozone is measured further inland and on the mountain slopes. Figure 3 provides a graphic representation of the prevailing winds in the Project vicinity, as measured at the SDAPCD's Escondido Monitoring Station (the closest meteorological monitoring station to the site). The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality.

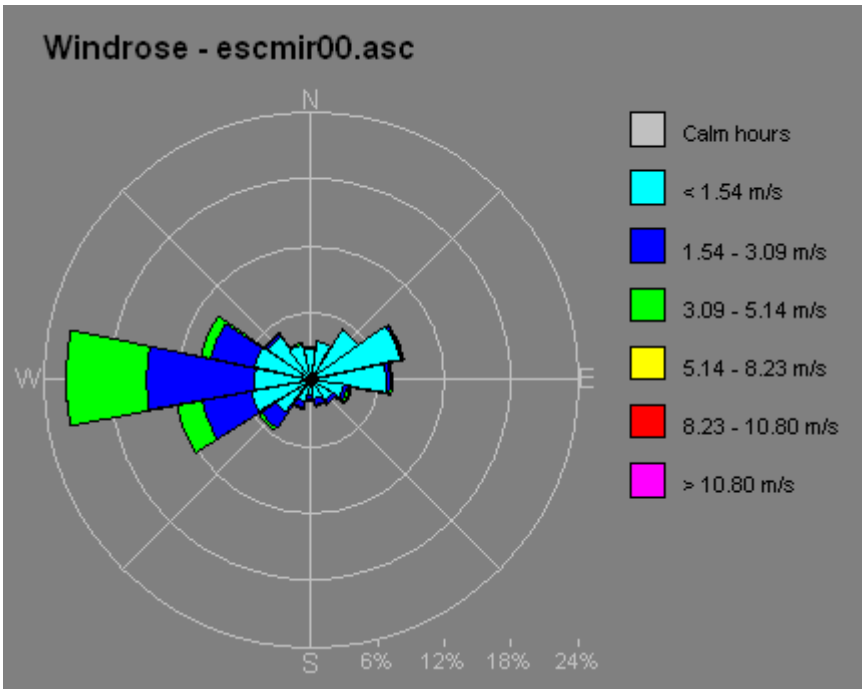


Figure 3. Wind Rose – Escondido Monitoring Station

2.2.1 Air Pollutants of Concern

Criteria Air Pollutants

Federal and state laws regulate air pollutants emitted into the ambient air by stationary and mobile sources. These regulated air pollutants are known as "criteria air pollutants" and are categorized as primary and secondary standards. Primary standards are set of limits based on human health. Another set of limits intended to prevent environmental and property damage is called secondary standards. Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the general public.

The following specific descriptions of health effects for each air pollutant associated with Project construction and operation are based on USEPA (USEPA 2007) and California Air Resources Board (CARB 2009).

Ozone. Ozone (O_3) is considered a photochemical oxidant, which is a chemical that is formed when volatile organic compounds (VOCs) and oxides of nitrogen (NO_X), both by-products of fuel combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

Carbon Monoxide. CO is a product of fuel combustion, and the main source of CO in the SDAB is from motor vehicle exhaust. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be

carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease, and can also affect mental alertness and vision.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is also a by-product of fuel combustion, and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the risk of respiratory illness.

Respirable Particulate Matter and Fine Particulate Matter. Respirable particulate matter, or PM_{10}, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or $PM_{2.5}$, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs.

Sulfur Dioxide. Sulfur dioxide (SO_2) is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Lead. Lead (Pb) in the atmosphere occurs as particulate matter. Pb has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Pb has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Pb is also classified as a probable human carcinogen.

Sulfates. Sulfates are the fully oxidized ionic form of sulfur. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventillatory function, aggravation of asthmatic symptoms and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and due to fact that they are usually acidic, can harm ecosystems and damage materials and property.

Hydrogen Sulfide. Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy

exploitation. Breathing H_2S at levels above the standard would result in exposure to a very disagreeable odor. In 1984, a CARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance.

Vinyl Chloride. Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants and hazardous waste sites, due to microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer, in humans.

Visibility-Reducing Particles. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. These particles in the atmosphere would obstruct the range of visibility. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze.

Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code (§39655, subd. (a).) defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the Federal Clean Air Act (CAA) (42 USC Sec. 7412[b]) is a toxic air contaminant. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Cancer Risk. One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no "safe" level of exposure to carcinogens; that is, any exposure to a carcinogen poses some risk of causing cancer. Health statistics show that one in four people will contract cancer over their lifetime, or 250,000 in one million, from all causes, including diet, genetic factors, and lifestyle choices.

Noncancer Health Risks. Unlike carcinogens, it is believed that there is a threshold level of exposure to most noncarcinogens below which they will not pose a health risk. CalEPA and the

California Office of Environmental Health Hazard Assessment (OEHHA) have developed reference exposure levels (RELs) for noncarcinogenic TACs that are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The non-cancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index (HI).

2.3 Regulatory Setting

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal CAA of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several pollutants (called "criteria" pollutants, specifically, ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, and lead). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Table 1 shows the federal and state ambient air quality standards.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. The CARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants through the California Clean Air Act of 1988 (CCAA), and also has established CAAQS for additional pollutants, including sulfates, H_2S, vinyl chloride and visibility-reducing particles. Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. On April 30, 2012, the SDAB was classified as a marginal nonattainment area for the 8-hour NAAQS for ozone. The SDAB is an attainment area for the NAAQS for all other criteria pollutants. The SDAB currently falls under a national "maintenance plan" for CO, following a 1998 redesignation as a CO attainment area (SDAPCD 2010). The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (serious nonattainment), PM_{10}, and $PM_{2.5}$ (CARB 2012a). On December 14, 2012, the federal annual standard for $PM_{2.5}$ was decreased from 15 $\mu g/m^3$ to 12 $\mu g/m^3$. The new annual standard will become effective 60 days after publication in the Federal Register. The USEPA made no changes to the primary 24-hour $PM_{2.5}$ standard or to the secondary $PM_{2.5}$ standards. At least three years of monitoring data beginning March 14, 2013 will be necessary before the USEPA re-designates the San Diego County for the annual $PM_{2.5}$ standard.

Table 1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		-		
Fine Particulate Matter ($PM_{2.5}$)[8]	24-Hour	-	-	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3		
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3	-	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	-	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		-	-	
Nitrogen Dioxide (NO_2)[9]	1-Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	0.100 ppm (188 µg/m^3)	-	Gas Phase Chemilumi-nescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[10]	1-Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m$^{3)}$	-	Ultraviolet Fluorescence; Spectro-photometry (Pararo-saniline Method
	3-Hour	-		-	0.5 ppm (1300 µg/m^3)	
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3) (for certain areas)[9]	-	
	Annual Arithmetic Mean	-		0.030 ppm (80 µg/m^3) (for certain areas)[9]	-	
Lead[11,12]	30-Day Average	1.5 µg/m^3	Atomic Absorption	-	-	High Volume Sampler and Atomic Absorption
	Calendar Quarter	-		1.5 µg/m^3	Same as Primary Standard	
	Rolling 3-Month Average	-		0.15 µg/m^3		
Visibility Reducing Particles[13]	8-Hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[11]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Notes for Table 1:

[1] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact USEPA for further clarification and current federal policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

[8] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[9] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 and 0.100 ppm, respectively.

[10] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-hour average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971standards remain in effect until implementation plans to attain or maintain the 2010 standards have are approved.

[11] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[12] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[13] In 1989, the CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 20-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter;
mg/m^3 = milligrams per cubic meter
Source: CARB June 4, 2013

Each nonattainment area must submit a "State Implementation Plan" (SIP) outlining the combination of local, state, and federal actions and emission control regulations necessary to bring the area into attainment as expeditiously as practicable. Then, even after the nonattainment area attains the air quality standard, it will remain designated a nonattainment area unless and until the state submits to USEPA a formal request for redesignation to attainment. The request must include a "maintenance" plan demonstrating that the area will maintain compliance with

that NAAQS for at least 10 years after USEPA redesignates the area to attainment. A brief summary of the redesignation request and maintenance plan is provided below (SDAPCD 2012).

1-Hour Ozone Standard. San Diego County was designated nonattainment for the 1-hour ozone standard on March 3, 1978. The region attained the 1-hour ozone standard in 2001, based on 1999-2001 air quality data. The District prepared and ARB submitted to USEPA a redesignation request and maintenance plan in 2002, and USEPA redesignated San Diego County to attainment for the 1-hour ozone standard on July 28, 2003. USEPA subsequently revoked the 1-hour ozone standard on June 15, 2005, after issuing area designations for the more health-protective 1997 8-hour ozone NAAQS. However, the USEPA-approved 1-hour ozone Maintenance Plan remains in effect as the applicable ozone SIP until USEPA approves a subsequent ozone SIP submittal (i.e., the Maintenance Plan herein) (SDAPCD 2012).

1997 8-Hour Ozone Standard. The region was designated nonattainment for the 1997 8-hour ozone NAAQS, effective June 15, 2004, based on ozone air quality measurements over the 2001-2003 three-year period. On December 05, 2012, the SDAPCD adopted its *Ozone Redesignation Request and Maintenance Plan*, which calls for the SDAB to attain the 1997 federal 8-hour ozone NAAQS, with a request for redesignation to attainment/maintenance area. On December 6, 2012, the CARB approved the *Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County* for submittal to the USEPA as a SIP revision. On December 20, 2012, the USEPA initiated its adequacy review of the plan and posted the document for a 30-day public review period that closed January 22, 2013. On March 25, 2013, the USEPA approved the redesignation to the 1997 8-hour ozone attainment/maintenance plan. Redesignation to attainment of the 1997 standard does not affect the region's marginal nonattainment status for the 2008 standard (SDAPCD 2012).

2008 8-Hour Ozone Standard. The USEPA approved stricter standards for ozone that became effective in 2008. On May 21, 2012, the USEPA designated the SDAB as a non-attainment area for the new 2008 Eight-Hour Ozone standard based on 2009-2011 ozone data and classified it as a marginal area with an attainment date of December 31, 2015. This designation became effective on July 20, 2012.

The CARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The CARB is responsible for the development, adoption, and enforcement of the state's motor vehicle emissions program, as well as the adoption of the CAAQS. The CARB also reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a nonattainment area to develop its own strategy for achieving the NAAQS and CAAQS. The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County.

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient

air quality standards in the SDAB. The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was initially adopted by the SDAPCD on June 30, 1992, and amended on March 2, 1993, in response to CARB comments. SDAPCD further updated the RAQS Revisions on December 12, 1995; June 17, 1998; August 8, 2001; July 28, 2004; and April 22, 2009. The local RAQS, in combination with those from all other California nonattainment areas with serious (or worse) air quality problems, is submitted to the CARB, which develops the California SIP. The SDAPCD has developed its input to the SIP, which includes the SDAPCD's plans and control measures for attaining the ozone NAAQS. SDAPCD submitted an air quality plan to USEPA in 2007; the plan demonstrated how the 8-hour ozone standard would be attained by 2009. Despite best efforts, SDAB did not meet the ozone NAAQS in 2008 and 2009, SDAPCD is currently revising their air quality plan. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the RAQS and SIP.

The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development that is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project might be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the SDAPCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

Table 1 presents a summary of the ambient air quality standards adopted by the federal and California CAAs. The current attainment status (Table 2) for San Diego County is as follows:

Table 2 FEDERAL AND STATE AIR QUALITY DESIGNATION		
Criteria Pollutant	**Federal Designation**	**State Designation**
O_3 (1-hour)	(No federal standard)	Nonattainment
O_3 (8-hour)	Nonattainment	Nonattainment
CO	Maintenance	Attainment
PM_{10}	Unclassifiable	Nonattainment
$PM_{2.5}$	Attainment	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassifiable
Visibility	(No federal standard)	Unclassifiable

Source: SDAPCD 2012a and USEPA 2012a

2.4 Background Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. There is no ambient monitoring station in the nearby areas of the Project site. The nearest ambient monitoring stations to the Project site are the Escondido East Valley Parkway station and the San Diego 12th Avenue station (which is the closest station that measures SO_2). Because both the Escondido and San Diego 12th Avenue monitoring stations are located in areas where there is substantial traffic congestion, it is likely that pollutant concentrations measured at those monitoring stations are higher than concentrations that would be observed or measured in the Project area, and would thus provide a conservative estimate of background ambient air quality.

In particular, concentrations of CO at the Escondido monitoring station tend to be among the highest in the SDAB, due to the fact that the monitor is located along East Valley Parkway in a congested area in downtown Escondido. The station sees higher concentrations of CO than have historically been measured elsewhere in San Diego County and the background data are not likely to be representative of background ambient CO concentrations at the Project site, due to the site's location in a less developed area.

Ambient concentrations of pollutants over the last 5 years are presented in Table 3. Air quality has shown improvement in the SDAB such that the 1-hour state ozone standard was not exceeded in 2007 or 2009, but was exceeded nine times in 2008, two times in 2010, and one time in 2011 at the Escondido monitoring station during the period from 2007 through 2011. The 8-hour state ozone standard was exceeded five times in 2007, 23 times in 2008, nine times in 2009, five times in 2010, and two times in 2011. The federal 8-hour ozone standard was exceeded at the Escondido monitoring station three times in 2007, thirteen times in 2008, one time in 2009, three times in 2010, and two times in 2011. The federal 24-hour $PM_{2.5}$ standard was exceeded 11 times in 2007. 3 times in 2008, 2 times in both 2009 and 2010, and three times

in 2011. The Escondido monitoring station measured exceedances of the state 24-hour PM_{10} standard two times in 2007, and one time in both 2008 and 2009. The annual PM_{10} and $PM_{2.5}$ standards were exceed in most years. The data from the monitoring stations indicate that air quality is in attainment of all other federal and state NO_2, CO and SO_2 standards.

Table 3
AMBIENT BACKGROUND CONCENTRATIONS
SAN DIEGO MONITORING STATIONS

Air Pollutant	2007	2008	2009	2010	2011
Ozone – Escondido East Valley Parkway					
Max 1 Hour (ppm)	0.094	0.116	0.093	0.105	0.098
Days > CAAQS (0.09 ppm)	0	9	0	2	1
Max 8 Hour (ppm)	0.077	0.098	0.080	0.084	0.089
Days > NAAQS (0.075 ppm)	3	13	1	3	2
Days > CAAQS (0.070 ppm)	5	23	9	5	2
Particulate Matter (PM_{10}) – Escondido East Valley Parkway					
Max Daily ($\mu g/m^3$)	68.0	82.0	73	42	40
Days > NAAQS (150 $\mu g/m^3$)	0	0	0	0	0
Days > CAAQS (50 $\mu g/m^3$)	2	1	1	0	0
Highest Annual Average ($\mu g/m^3$)	26.7	24.6	24.9	20.9	18.8
Exceed CAAQS (20 $\mu g/m^3$)	1	1	1	1	0
Particulate Matter ($PM_{2.5}$) – Escondido East Valley Parkway					
Max Daily ($\mu g/m^3$)	126.2	44.0	64.9	48.4	67.7
Days > NAAQS (35 $\mu g/m^3$)	11	3	2	2	3
Highest Annual Average ($\mu g/m^3$)	13.3	12.4	13.4	12.2	12.2
Exceed NAAQS (15 $\mu g/m^3$)	0	0	0	0	0
Exceed CAAQS (12 $\mu g/m^3$)	1	1	1	1	1
Nitrogen Dioxide (NO_2) – Escondido East Valley Parkway					
Max 1 Hour (ppm)	0.072	0.081	0.073	0.064	0.062
Days > NAAQS (0.10 ppm)	0	0	0	0	0
Days > CAAQS (0.18 ppm)	0	0	0	0	0
Highest Annual Average (ppm)	0.016	0.018	0.016	0.014	0.013
Exceed NAAQS (0.053 ppm)	0	0	0	0	0
Exceed CAAQS (0.030 ppm)	0	0	0	0	0
Carbon Monoxide (CO) – Escondido East Valley Parkway					
Max 8 Hour (ppm)	3.19	2.81	3.24	2.46	2.20
Days > NAAQS (9 ppm)	0	0	0	0	0
Days > CAAQS (9.0 ppm)	0	0	0	0	0
Max 1 Hour (ppm)	5.2	5.6	4.4	3.9	3.5
Days > NAAQS (35 ppm)	0	0	0	0	0
Days > CAAQS (20 ppm)	0	0	0	0	0
Sulfur Dioxide (SO_2) – Downtown San Diego Beardsley Street					
Max Daily Measurement (ppm)	0.006	0.007	0.006	0.002	0.003
Days > NAAQS (0.14 ppm)	0	0	0	0	0
Days > CAAQS (0.04 ppm)	0	0	0	0	0

Source: CARB 2012b www.arb.ca.gov (all pollutants except 1-hour CO)
USEPA 2012b http://www.epa.gov/airdata/ (1-hour CO)
Abbreviations: > = exceed; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; Mean = Annual Arithmetic Mean
* No Data / Insufficient Data

3.0 SIGNIFICANCE CRITERIA AND ANALYSIS METHODOLOGIES

3.1 Significance Criteria

The County (2007) has approved guidelines for determining significance based on Appendix G.III of the State California Environmental Quality Act (CEQA) Guidelines, which provide guidance that a project would have a significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the San Diego RAQS 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 parts per million (ppm) or an 8-hour average of 9 ppm.

    c. Result in emissions of $PM_{2.5}$ that exceed 55 pounds per day.

    d. Result in emissions of PM_{10} that exceed 100 pounds per day and increase the ambient PM_{10} concentration by 5 micrograms per cubic meter (5.0 $\mu g/m^3$) or greater at the maximum exposed individual.

3. Result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for ozone precursors, NO_X and VOCs;

4. Expose sensitive receptors (including, but not limited to, residences, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations;

    a. Place sensitive receptors near CO "hot spot" or create CO "hot spot" 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 Toxics-Best Available Control Technology or a health HI greater than 1 would be deemed as having a potentially significant impact.

5. Create objectionable odors affecting a substantial number of people.

The County recognizes the SDAPCD's established screening level thresholds for air quality emissions (Rules 20.1 *et seq.*) for land development projects. As stated above, projects that propose development that is consistent with the growth anticipated by the general plans and SANDAG's growth forecasts would be consistent with the RAQS and SIP. Also, projects that are consistent with the SIP rules (i.e., the federally-approved rules and regulations adopted by the SDAPCD) are consistent with the SIP. Thus, projects would be required to conform with

measures adopted in the RAQS (including use of low-VOC architectural coatings, use of low-NO_X water heaters, and compliance with rules and regulations governing stationary sources) and would also be required to comply with all applicable rules and regulations adopted by the SDAPCD.

To determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, or (b) result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for ozone precursors, oxides of NO_X and VOCs, project emissions may be evaluated based on the quantitative emission thresholds established by the SDAPCD. As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIAs). The County has also adopted the SCAQMD's screening threshold of 55 pounds per day or 10 tons per year as a significance threshold for $PM_{2.5}$.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality. The screening thresholds are included in Table 4.

Table 4
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS

Pollutant	Total Emissions		
Construction Emissions			
	Pounds per Day		
Respirable Particulate Matter (PM_{10})	100		
Fine Particulate Matter ($PM_{2.5}$)	55		
Oxides of Nitrogen (NO_X)	250		
Oxides of Sulfur (SO_X)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	75		
Operational Emissions			
	Pounds Per Hour	**Pounds per Day**	**Tons per Year**
Respirable Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	55	10
Oxides of Nitrogen (NO_X)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)	---	75	13.7
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

Source: SDACPD Rule 20.2 and Rule 1210.
T-BACT = Toxics Best Available Control Technology

In the event that emissions exceed these screening-level thresholds, modeling would be required to demonstrate that the Project's total air quality impacts result in ground-level concentrations that are below the NAAQS and CAAQS, including appropriate background levels. For nonattainment pollutants (ozone [with ozone precursors NO_X and VOCs], $PM_{2.5}$ and PM_{10}), if emissions exceed the thresholds shown in Table 3, the Project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

In addition to impacts from criteria pollutants, impacts may include emissions of pollutants identified by the state and federal government as TACs or Hazardous Air Pollutants (HAPs). In San Diego County, the Planning and Development Services (PDS) identifies an excess cancer risk level of 1 in 1 million or less for projects that do not implement Toxics Best Available Control Technology (T-BACT), and an excess cancer risk level of 10 in 1 million or less for projects that do implement T-BACT. The significance threshold for non-cancer health effects is a health HI of 1 or less. These significance thresholds are consistent with the SDAPCD's Rule 1210 requirements for stationary sources. If a project has the potential to result in emissions of any TAC or HAP which result in a cancer risk of greater than 1 in 1 million without T-BACT, 10 in 1 million with T-BACT, or a health HI of 1or more, the project would be deemed to have a potentially significant impact.

With regard to evaluating whether a project would have a significant impact on sensitive receptors, air quality regulators typically define sensitive receptors as schools (Preschool through 12th Grade), hospitals, residences, resident care facilities, or day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Based on Bay Area Air Quality Management District (BAAQMD) guidance, any project that has the potential to directly impact a sensitive receptor located within 1,000 feet and results in a health risk greater than the risk significance thresholds discussed above would be deemed to have a potentially significant impact (BAAQMD 2012).

Section 6318 of the County Zoning Ordinance requires all commercial and industrial uses "be operated as not to emit matter causing unpleasant odors which is perceptible by the average person at or beyond any lot line of the lot containing said uses." SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material causing nuisance to a considerable number of persons or endangers the comfort, health or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of receptors.

The impacts associated with construction and operation of the Project were evaluated for significance based on these significance criteria.

3.2 Methodology

The Project would generate construction-related emissions and operational emissions. The methods used to evaluate construction and operational impacts are described below.

Construction of the Project would result in the temporary generation of emissions of VOC, NO_X, CO, SO_X, PM_{10} and $PM_{2.5}$. Construction-related emissions would vary substantially depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content. It is assumed that most of the construction equipment used would be diesel-powered. The construction activities associated with the Project would create diesel particulate matter (DPM) emissions, and would generate fugitive dust. Construction equipment within the Project site that would generate criteria air pollutants could include backhoe, cranes, dozers, excavator, loaders, scrapers, and haul trucks. Some of this equipment would be used during site preparation and grading activities as well as when structures are constructed on the Project site. In addition, emissions during construction and grading activities include truck trips off site to remove debris during the blasting phase and construction truck trips.

Criteria pollutant and O_3 precursor emissions for Project construction activities were calculated using the California Emission Estimator Model (CalEEMod) Version 2013.2.2 computer program as recommended by the County. CalEEMod incorporates CARB's EMFAC2011 model for on-road vehicle emissions and the OFFROAD2011 model for off-road vehicle emissions. CalEEMod is designed to model construction emissions for land development projects and allows for the input of project-specific information, such as the number of equipment, hours of operations, duration of construction activities, and selection of emission control measures. The CalEEMod calculations were supplemented by manual calculations where the limitations of the CalEEMod program prevent appropriate representation of a construction activity, such as rock blasting.

Project-generated, long-term regional area-source and mobile-source emissions of criteria air pollutants and O_3 precursors were also modeled using CalEEMod. CalEEMod allows land use selections that include project land use types, sizes, and metric specifics and trip generation rates. Figure 4 presents the Neighborhood Layout Plan. Table 5 presents a summary of the land uses data input values for CalEEMod. Area sources include the combustion of natural gas for heating and hot water, engine emissions from landscape maintenance equipment, and VOC emissions from repainting of buildings. CalEEMod also accounts for mobile source emissions associated with vehicle trip generation. Project-specific input was based on general information provided in the Project description, the Traffic Impact Analysis (TIA) prepared for this Project (LLG 2015), assumptions as described in Section 4.2 below, and default CalEEMod settings for San Diego County in order to estimate reasonable worst-case conditions. Model output data sheets and calculations are included in Appendices A and C.

Table 5
LIST OF LAND USE, SIZE, AND METRIC USED AS INPUTS FOR PROPOSED PROJECT TO CALEEMOD/ROAD CONSTRUCTION MODELS

Land Uses	Size	Metric
Off-site Access Roads	5,162	Linear Feet
Single-Family Residential (N 1& 5)	165	Dwelling Units
General Light Industrial	21,600	Square Feet
Single-Family Residential (N 2)	58	Dwelling Units
Single-Family Residential (N 3)	35	Dwelling Units
Single-Family Residential (N 4)	76	Dwelling Units

Note: N = Neighborhood

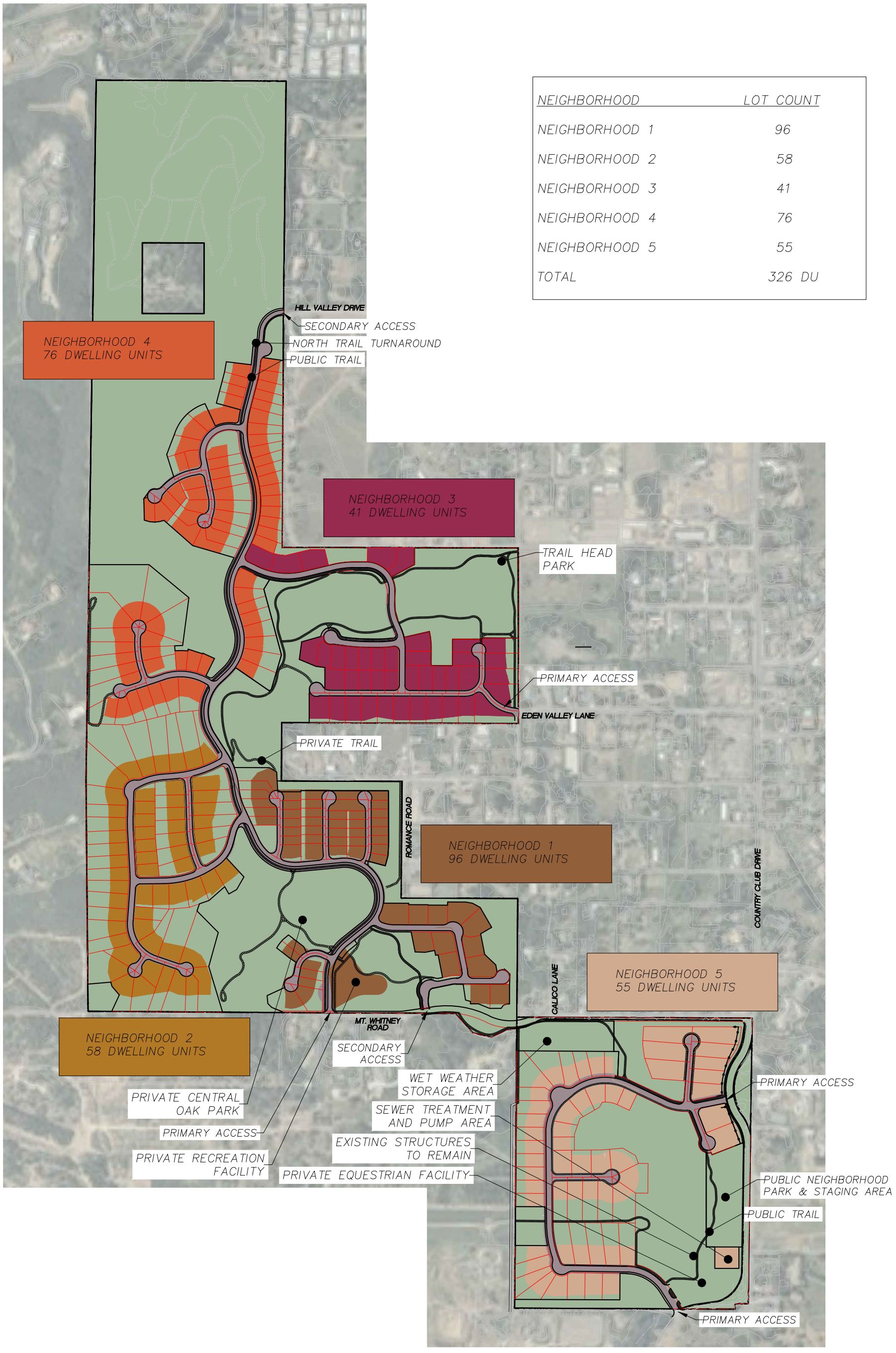
Location of Off-site Sensitive Receptors. Air quality regulators typically define "sensitive receptors" as schools, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. However, for the purpose of CEQA analysis, the County definition of "sensitive receptors" also includes residences (County 2007). Existing sensitive receptors within one quarter mile of the Project vicinity include several existing residences within 100 feet to the west, within 250 feet to the northeast, within 100 feet to the east, and within 100 feet to the southeast. There are no schools, hospitals, or other non-residence sensitive receptors within one quarter mile of the Project site.

Figure 5 presents the location of sensitive receptors within 0.25-miles of the Project site. The two primary emissions of concern for impacts to sensitive receptors are CO and DPM.

Carbon Monoxide Impacts at Congested Intersections. Under the Cumulative Impact Section, localized increases in CO concentrations from vehicle congestion at intersections affected by development were modeled using the California Department of Transportation (Caltrans) California Line Source Dispersion Model (Version 4) (CALINE4) line source dispersion model (Benson 1989). CO concentrations at intersections with level of service (LOS) E or F near the vicinity of the Project site were estimated using CALINE4. LOS is a measure of traffic delay, rated A-F, with F indicating the worst delay.

Health Risks from Diesel Particulate Matter and Volatile Organic Compounds. To evaluate whether Project construction activities and WTWRF could pose a significant impact to nearby sensitive receptors, a health risk evaluation of diesel PM and VOCs were conducted using the USEPA SCREEN3 model. The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure, which is defined in the California Office of Environmental Health Hazard Assessment (OEHHA) guidelines, *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,* as 24 hours per day, 7 days per week, 365 days per year, for 70 years. Diesel exhaust particulate matter would be emitted during construction due to the operation of heavy equipment at the site. TACs would be generated during treatment of the influent at the WTWRF. Most TAC emissions would be produced during degradation or reaction while in the treatment system. Organic compounds would volatilize from the liquid surface of the reactors during the biological

NEIGHBORHOOD	LOT COUNT
NEIGHBORHOOD 1	96
NEIGHBORHOOD 2	58
NEIGHBORHOOD 3	41
NEIGHBORHOOD 4	76
NEIGHBORHOOD 5	55
TOTAL	326 DU



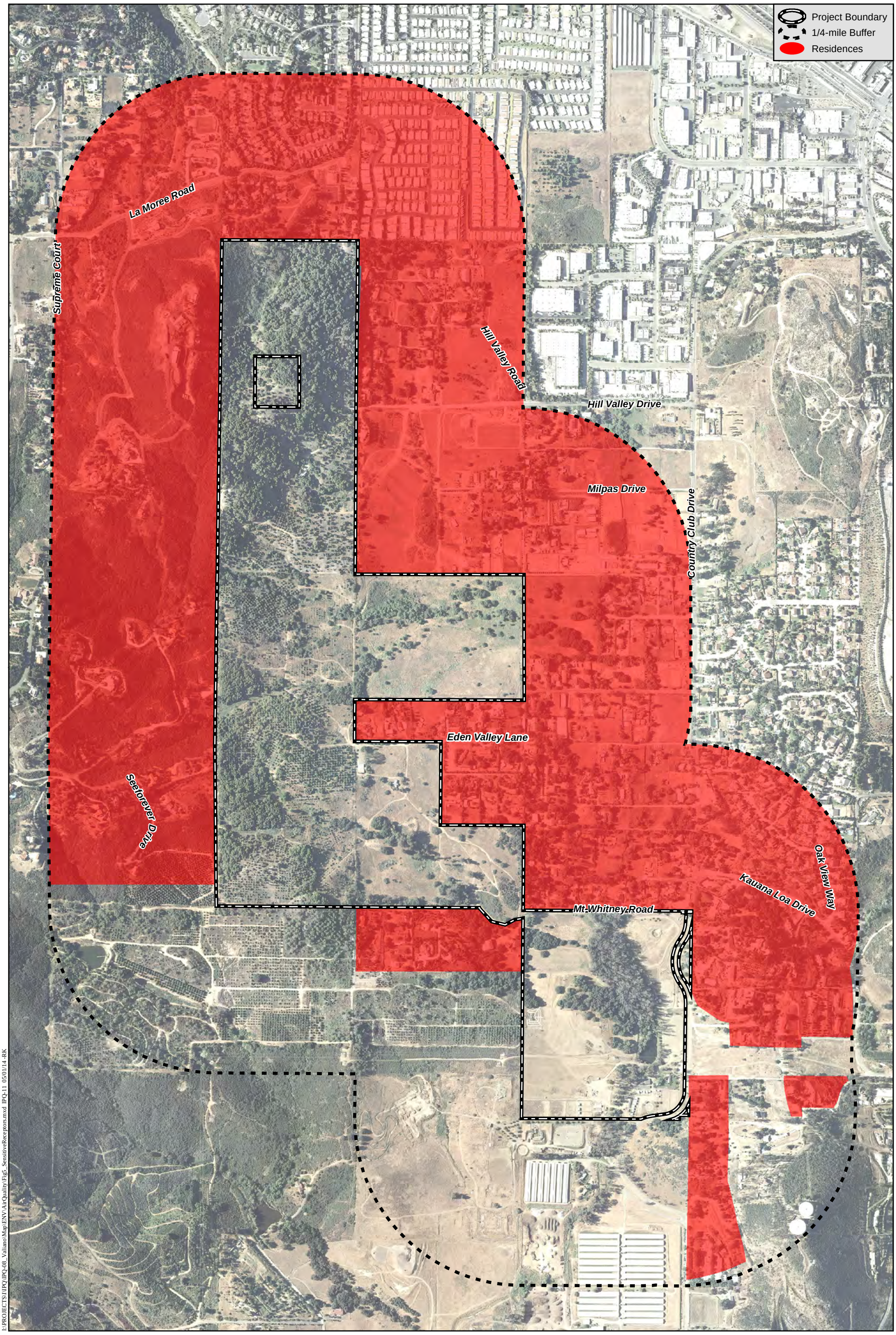
Source: Fuscoe Engineering 2015

Neighborhood Layout

VALIANO

HELIX Environmental Planning

Figure 4



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Location of Sensitive Receptors

VALIANO

HELIX Environmental Planning

N

0 700 Feet

Figure 5

treatment of influent. The USEPA's approved air dispersion model, SCREEN3, was used to estimate the downwind impacts at the closest receptors to the construction sites and WTWRF. The model was run using worst case meteorological conditions. Risks were estimated using the OEHHA unit risk factor for diesel PM and volatile compounds, which is an upper-bound cancer risk estimate based on 70 years of exposure. Because the unit risk factor is based on 70 years (25,550 days) of exposure for 24 hours per day, 365 days per year, the diesel PM results of the analysis were scaled down to four years to account for exposure for the duration of the total construction duration period. The chronic and acute results for the WTWRF are based on the annual and 24-hour average exposure periods. Further details relative to the health risk methodology are included in Appendices E and F.