APPENDIX C
Air Quality Technical Report

Palomar Community College District South Education Center Project

AIR QUALITY TECHNICAL REPORT

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This air quality technical report assesses the potential for air quality impacts to occur in conjunction with the development of the proposed Palomar Community College District (PCCD) South Education Center, herein referred to as the “project.” The project would consist of a new 1,200 feet loop road, and interior retrofits of the existing building structure to meet educational needs of future students. The existing building has 68,255 assignable square feet (ASF). It is located at 11111 Rancho Bernardo Road within the City of San Diego on a 27-acre property that PCCD acquired in 2010. This report is intended to satisfy the project’s requirement for an air quality impact analysis by examining the impacts of the proposed project and identifying mitigation measures where applicable to address significant air quality impacts.

1.0 Summary

Construction and operation of the proposed project would not exceed the air quality significance thresholds. No carbon monoxide hot spots would occur as a result of the project. No direct or cumulative impacts related to objectionable odors would occur. Therefore, no mitigation measures are required for the project. The proposed project would not result in significant growth; instead, it serves the existing population. Therefore, it would comply with RAQS and SIP.

2.0 Project Description

Figure 1 (Project Area) illustrates the project’s location and surrounding uses. The site is currently developed with a graded pad containing a vacant four-story, 110,000-square foot building accompanied by a detached four-level, 574-space parking structure and 218 space surface parking lot. The existing building structure has limited interior improvements. The existing development occupies the central portion of the site with approximately 12.6 acres of the site remaining undeveloped pursuant to existing open space easements. The proposed project would convert the existing building into a comprehensive community college education center, build a new looped road from the existing parking lot to the existing on-site access road, implement drainage improvements, and install walkways, hardscape areas, and landscaping. Figure 2 (Site Plan) shows a plan view of the proposed site plan with the looped road.

Interior building improvements include tenant fit-out and construction of three four-story stairwells. Interior improvements would be made to the existing building structure to create an education center that meets the facility and space needs identified in the PCCD Educational Master Plan Update. The education center building is proposed to include the following: 1,000 ASF of lobby; 37,470 ASF of academic (lecture and laboratory); 4,600 ASF of faculty offices and support; 10,290 ASF of library resource and instructional support lab; 1,250 ASF of division offices and support; 4,666 ASF of student support services; 5,480 ASF of merchandizing and food services; 1,900 ASF of physical plant facilities and support; 869 ASF of security; and 730 ASF of information systems (IS). It is anticipated that the South Education Center will accommodate 3,470 FTES at maximum capacity. The proposed project would incorporate enhanced energy efficiency design features into the interior building design to promote energy efficiency and reduce area source pollutants.

Source: GoogleEarthPro, Atkins 2015

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FIGURE 1

Project Area

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Palomar College South Education Center Air Quality Technical Report

Source: LPA 2014

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FIGURE 2

Site Plan

3.0 Regulatory Framework

The PCCD South Education Center is subject to major air quality planning programs by both the federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 amendments, as well as the California CAA of 1988. Both the federal and State statutes provide for ambient air quality standards to protect public health, timetables for progressing toward achieving and maintaining ambient standards, and the development of plans to guide the air quality improvement efforts of State and local agencies. Within the San Diego region, air quality is monitored, evaluated, and controlled by the EPA, CARB, and San Diego APCD, as described in the following sections.

3.1 Federal

Federal Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that greenhouse gases, including carbon dioxide, are air pollutants covered by the CAA; however, no NAAQS have been established for greenhouse gases.

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

Current NAAQS are listed in Table 1. Areas that meet the ambient air quality standards are classified as “attainment” areas while areas that do not meet these standards are classified as “non-attainment” areas.

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2010, fuel economy standards were set at 27.5 miles per gallon (mpg) for new passenger cars and 23.5 mpg for new light trucks. Fuel economy is determined based on each manufacturer’s average fuel economy for the fleet of vehicles available for sale in the United States.

Table 1 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	Federal Standards[2]	
		Concentration[3]	Primary[3,4]	Secondary[3,5]
Ozone (O_3)	1-hour	0.09 ppm (180 $\mu g/m^3$)	--	Same as Primary Standards
	8-hour	0.070 ppm (137 $\mu g/m^3$)	0.075 ppm (147 $\mu g/m^3$)	
Respirable Particulate Matter (PM_{10})	24 Hour	50 $\mu g/m^3$	150 $\mu g/m^3$	Same as Primary Standards
	Annual Arithmetic Mean	20 $\mu g/m$	--	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard	35 $\mu g/m^3$	Same as Primary Standards
	Annual Arithmetic Mean	12 $\mu g/m^3$	12 $\mu g/m^3$	15 $\mu g/m^3$
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 $\mu g/m^3$)	.053 ppm (100 $\mu g/m^3$)[6]	Same as Primary Standard
	1-hour	0.18 ppm (339 mg/m^3)	100 ppb (188 $\mu g/m^3$)[6]	None
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 $\mu g/m^3$)	--	--
	3 Hour	--	--	0.5 ppm (1300 $\mu g/m^3$)[7]
	1-hour	0.25 ppm (655 $\mu g/m^3$)	75 ppb (196 $\mu g/m^3$)[7]	--
Lead[8]	30 Day Average	1.5 $\mu g/m^3$	--	--
	Calendar Quarter	--	1.5 $\mu g/m^3$	Same as Primary Standard
	Rolling 3-Month Average[9]	--	0.15 $\mu g/m^3$	
Visibility Reducing Particles	8-hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more due to particles.	No Federal Standards	
Sulfates	24 Hour	25 $\mu g/m^3$	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 $\mu g/m^3$)	No Federal Standards	
Vinyl Chloride[8]	24 Hour	0.01 ppm (26 $\mu g/m^3$)	No Federal Standards	

ppm= parts per million; ppb = parts per billion; $\mu g/m^3$ = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter

(1) California standards for ozone, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride standards are not to be equaled or exceeded.

(2) National standards, other than 1-hour ozone, 8-hour ozone, 24-hour PM_{10}, 24-hour $PM_{2.5}$, and those based on annual averages, are not to be exceeded more than once a year. The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the annual fourth-highest daily maximum 8-hour concentrations is below 0.08 ppm. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile 24-hour concentrations is below 150 $\mu g/m^3$. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of the 98th percentile 24-hour concentrations is below 65 $\mu g/m^3$.

(3) Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based on a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar). All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury; parts per million (ppm) in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

(4) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

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

(6) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the EPA 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 ppm and 0.100 ppm, respectively.

(7) On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 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 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

(8) 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.

(9) National lead standard, rolling 3-month average: final rule signed October 15, 2008.

Source: CARB 2013.

Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 was signed into law. In addition to setting increased corporate average fuel economy standards for motor vehicles, the act includes other provisions related to energy efficiency:

- Renewable fuel standard (RFS) (Section 202)
- Appliance and lighting efficiency standards (Sections 301–325)
- Building energy efficiency (Sections 411–441)

This federal legislation requires ever-increasing levels of renewable fuels to replace petroleum (Section 202, RFS). The U.S. Environmental Protection Agency (EPA) is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the Energy Independence and Security Act of 2007 (EISA), the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of greenhouse gas (GHG) emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of our nation’s renewable fuels sector. The updated program is referred to as RFS2 and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel and set separate volume requirements for each one.
- EISA required the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces (EPA 2015)

Additional provisions of EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of “green jobs.”

3.2 State

California Clean Air Act

The federal CAA (and its subsequent amendments) also requires each state to prepare an air quality control plan referred to as the SIP. The federal CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. SIPs include strategies and control measures to attain the NAAQS by deadlines established in the federal CAA. SIPs are periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the federal CAA.

The SDAPCD is the agency responsible for preparing and implementing the portion of the California SIP applicable to the SDAB for attaining the NAAQS for 8-hour ozone. The Eight Hour Ozone Attainment Plan for San Diego County (SDAPCD 2007) identifies control measures to reduce emissions of ozone precursors and complies with the federal SIP requirements. This plan accommodates 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 SIP. The SIP does not address impacts from sources of PM_{10} or $PM_{2.5}$, although it does include control measures (rules) to regulate stationary source emissions of those pollutants. 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.

California State Implementation Plan

The federal CAA (and its subsequent amendments) also requires each state to prepare an air quality control plan referred to as the SIP. The federal CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. SIPs include strategies and control measures to attain the NAAQS by deadlines established in the federal CAA. SIPs are periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the federal CAA.

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Title 24 of the California Code of Regulations

Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in Title 24 guidelines. Title 24, Part 6, does not apply to hospitals, but applies to other facilities associated with the medical center, such as the medical office buildings.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's utilities to power plants that meet an emissions performance standard jointly established by the California Energy Commission (CEC) and the California Public Utilities Commission. The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds CO2 per megawatt-hour (MWh). This will encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs;
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This will facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the state's standards for environmental impact; and
- Establish a public process for determining the compliance of proposed investments with the EPS [emissions performance standard] (Perata, Chapter 598, Statutes of 2006).

Assembly Bill 1493

Adopted in 2002 by the state legislature, Assembly Bill 1493 ("Pavley" regulations) required that the California Air Resources Board (CARB) develop and adopt, no later than January 1, 2005, regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.

The first California request to implement GHG standards for passenger vehicles, known as a waiver request, was made in December 2005 and was denied by the EPA in March 2008. That decision was based on a finding that California's request to reduce GHG emissions from passenger vehicles did not meet the Clean Air Act requirement of showing that the waiver was needed to meet "compelling and extraordinary conditions."

The EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009. On September 24, 2009, CARB adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California's commitment to a nationwide program to reduce new passenger vehicle GHGs from 2012 through 2016. CARB's September 2009 amendments will allow for California's enforcement of the Pavley rule while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to harmonize its rules with the federal rules for passenger vehicles.

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, all while improving fuel efficiency and reducing motorists' costs. CARB has adopted a new approach to passenger vehicles—cars and light trucks—by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plugin hybrids and zero-emission vehicles in California (CARB 2013a).

Assembly Bill 2076

The CEC and CARB are directed by AB 2076 (passed in 2000) to develop and adopt recommendations for reducing dependence on petroleum. A performance---based goal is to reduce petroleum demand to 15 percent less than 2003 demand by 2020.

Senate Bill 375, Sustainable Communities and Climate Protection Act

Senate Bill 375, the Sustainable Communities and Climate Protection Act of 2008, enhances California's ability to reach its Assembly Bill 32 goals by promoting good planning with the goal of more sustainable communities. Senate Bill 375 requires the CARB to develop regional GHG emissions reduction targets for passenger vehicles to be achieved by 2020 and 2035, and requires the regional Metropolitan Planning Organizations, such as SANDAG, to develop Sustainable Communities Strategies in their regional transportation plans. The Sustainable Communities Strategies demonstrate how each region will meet the CARB's emissions reduction targets through integrated land use, housing, and transportation planning to reduce the amount of vehicle miles travelled within their respective regions.

In addition to standards set for the six criteria pollutants, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles (Table 1); however, these are not pollutants of concern for the project because construction and operation of the project would not result in emissions of these pollutants. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Further, in addition to primary and secondary CAAQS, the state has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health.

3.3 Regional

Although the PCCD is constitutionally autonomous and is therefore exempt from municipal regulation, regional standards (City of San Diego) may be relevant in establishing guidelines and evaluating impacts. The PCCD typically pursues consistency with local general plans, ordinances, and policies where feasible. Furthermore, regional regulations are relevant for addressing impacts to adjacent sensitive receptors located within the County's and City's jurisdiction.

City of San Diego General Plan

The City of San Diego General Plan contains policies designed to reduce air pollutants emissions from motor vehicles. The Conservation Element includes a goal defined under Climate Change and Sustainable Development to reduce the City's overall carbon dioxide footprint by improving energy efficiency, increasing use of alternative modes of transportation, employing sustainable planning and design techniques, and providing environmentally sound waste management (City of San Diego 2008). Improving energy efficiency and reducing vehicle trips would also reduce emissions of criteria air pollutants. The Conservation Element also includes a goal for regional air quality which meets state and federal standards. Policies applicable to the proposed project include CE-A.5, CE-A.9, CE-A.11, CE-A.12, CE-I.4, CE-I.5, CE-I.8, CE-I.9, CE-I.10.

San Diego County Regional Air Quality Strategy

The San Diego Air Pollution Control District (SDAPCD) is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County. The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircrafts, and agricultural equipment, which are regulated by the CARB or the EPA. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD. Additionally, the SDAPCD, along with the CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County. These stations are used to measure and monitor criteria and toxic air pollutant levels in the ambient air.

The SDAPCD and the 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 San Diego Air Basin (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 updated in 1995, 1998, 2001, 2004, and most recently in April 2009. The RAQS outlines the SDAPCD's plans and control measures designed to attain the state air quality standards for ozone. The SDAPCD has also developed the SDAB's input to the SIP, which is required under the Federal CAA for pollutants that are designated as being in non-attainment of national air quality standards for the basin.

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 establish 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 of San Diego 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 which 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.

SDAPCD Rules

The SDAPCD has adopted rules and regulations that govern stationary sources within the SDAB. SDAPCD rules that would be applicable to the proposed project include the following:

- **Rule 51—Nuisance.** Rule 51 prohibits the discharge from any source such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- **Rule 52—Particulate Matter.** Rule 52 prohibits the discharge of particulate matter into the atmosphere from any source (except stationary internal combustion engines) in excess of 0.10 grain per dry standard cubic feet (0.23 grams per dry standard cubic meter) of gas.
- **Rule 55—Fugitive Dust Control.** Rule 55 applies to any commercial construction or demolition activity capable of generating fugitive dust emissions, and requires that visible dust emissions be controlled such that they do not extend beyond the property line for more than three minutes in any 60-minute period, and also requires track-out/carry-out dust to be controlled.
- **Rule 67.0—Architectural Coatings.** Rule 67.0 establishes the VOC content of architectural coatings that is allowed within the SDAB for various types of coatings.
- **Rule 1210—Toxic Air Contaminant Public Health Risks.** Rule 1210 applies to each stationary source required to prepare a public health risk assessment pursuant to California Health and Safety Section 44360, and implements public notification and risk reductions requirements for TACs.

Palomar College 2022 Educational and Facilities Master Plan

The Palomar College 2022 Educational and Facilities Master Plan is comprised of two main components, which are linked together: the Educational Master Plan which addresses all PCCD campuses and educational centers (see below), and the San Marcos Campus Facilities Master Plan. The Educational Master Plan forecasts the future educational programs and enrollment for the PCCD, and has projected a total enrollment of 47,500 students at all campuses by the year 2022. An EIR for the San Marcos Campus Facilities Master Plan was certified by the PCCD governing board on November 10, 2009. The EIR included general project design features (PDF) and standard construction practices that could apply to its other satellite campuses including the south education center. The applicable PDF's and SCP's related to energy usage from the 2009 EIR include the following:

Utl-PDF-1 High-efficiency, Energy Star®-rated, or higher, equipment will be installed in new and remodeled buildings under the Master Plan, if economically feasible. Prior to issuance of a Notice of Completion for each applicable Master Plan building, the proper installation and operation of said equipment will be approved by a Division of State Architect (DSA)-certified inspector.

Utl-PDF-5 New and remodeled buildings will be designed to meet minimum LEED standards, or equivalent, for New Construction certification. During the design review process, PCCD will ensure that appropriate LEED building features, or equivalent, are shown on the plans. At a minimum, all Master Plan buildings will meet Title 24 requirements; be constructed with at least 25 percent recycled materials; include passive heating and cooling systems such as insulation and ventilation to reduce energy usage; include energy-efficient lighting fixtures such as fluorescent lighting for interior uses, and light-emitting diodes (LEDs) for exterior uses; and be designed for a 50-year life span or greater.

Utl-PDF-6 PCCD will continue to coordinate with SDG&E to enroll all eligible Master Plan projects into the Savings by Design Program, which provides energy efficiency techniques for nonresidential new construction and renovation/remodeling projects. During the design review process, PCCD will contact SDG&E to determine funding availability for this program and to learn about program options that will enhance energy performance for Master Plan implementation.

4.0 Existing Conditions

4.1 Climate

Regional climate and local meteorological conditions influence ambient air quality. The PCCD South Education Center is located in the SDAB. The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. It also drives the dominant onshore circulation and helps create two types of temperature inversions, subsidence and radiation, that contribute to local air quality degradation.

Subsidence inversions occur during 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 represents a temperature inversion that traps pollutants below it. Radiation inversions typically develop on winter nights with low wind speeds, when air near the ground cools by radiation, and the air aloft remains warm. A shallow inversion layer that can trap pollutants is formed between the two layers.

In the vicinity of the project area, the nearest climatological monitoring station with complete climate data is located at Poway Valley, approximately 8 miles southeast of the project site. Climatological monitoring stations generally collect temperature and precipitation data. The normal precipitation in the Poway Valley area is 13 inches annually, occurring primarily from November through March (WRCC, 2012). The normal daily maximum temperature in Poway Valley is 86 degrees Fahrenheit (°F) in August, and the normal daily minimum temperature is 39 °F in December, according to the Western Regional Climate Center (WRCC 2015).

4.2 Air Pollutants

Air quality is defined by ambient air concentrations of specific pollutants identified by the U.S. Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. Historically, air quality laws and regulations have divided air pollutants into two broad categories, “criteria air pollutants” and “toxic air contaminants” (TACs), which are described below.

Criteria Air Pollutants

Federal and state laws regulate the 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 pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide, volatile organic compounds (VOCs), nitrogen oxides (NO_x), sulfur dioxide (SO_2), and most fine particulate matter including lead and fugitive dust (PM_{10} and $PM_{2.5}$) are primary air pollutants. Of these, carbon monoxide, SO_2, PM_{10}, $PM_{2.5}$, and lead are criteria pollutants. VOCs and NO_x are criteria pollutant precursors that go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone and NO_2 are the principal secondary pollutants. Diesel particulate matter is a mixture of particles and is a component of diesel exhaust. The EPA lists diesel exhaust as a mobile source air toxic due to the cancer and non-cancer health effects associated with exposure to whole diesel exhaust.

Presented below is a description of each of the primary and secondary criteria air pollutants and their known health effects.

Carbon Monoxide is an odorless, colorless, and toxic gas. Because it is impossible to see, taste, or smell the toxic fumes, carbon monoxide can kill people before they are aware that it is in their homes. At lower levels of exposure, carbon monoxide causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea, and fatigue. The effects of carbon monoxide exposure can vary greatly from person to person depending on age, overall health, and the concentration and length of exposure (EPA 2010). The major sources of carbon monoxide in the SDAB are on-road vehicles, aircraft, and off-road vehicles and equipment.

Volatile Organic Compounds (VOCs) are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. VOCs consist of non-methane hydrocarbons and oxygenated hydrocarbons. Hydrocarbons are organic compounds that contain only hydrogen and carbon atoms. Non-methane hydrocarbons are hydrocarbons that do not contain the un-reactive hydrocarbon, methane. Oxygenated hydrocarbons are hydrocarbons with oxygenated functional groups attached.

It should be noted that there are no CAAQS or NAAQS for VOCs because they are not classified as criteria pollutants. They are regulated, however, because a reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} levels and lower visibility. Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, higher concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, kidneys, and central nervous system (EPA 1999).

The major sources of VOCs in the SDAB are on-road motor vehicles and solvent evaporation. Benzene, a VOC and known carcinogen, is emitted into the air from gasoline service stations (fuel evaporation), motor vehicle exhaust, tobacco smoke, and from burning oil and coal. Benzene is also sometimes used as a solvent for paints, inks, oils, waxes, plastic, and rubber. It is used in the extraction of oils from seeds and nuts. It is also used in the manufacture of detergents, explosives, dyestuffs, and pharmaceuticals. Short-term (acute) exposure of high doses of benzene from inhalation may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation. At higher levels, unconsciousness can occur. Long-term (chronic) occupational exposure of high doses by inhalation has caused blood disorders, including aplastic anemia and lower levels of red blood cells (EPA 1999).

Nitrogen Oxides are a byproduct of fuel combustion and serve as integral components in the process of photochemical smog production. The two major forms of NO_x are nitric oxide and nitrogen dioxide (NO_2). Nitric oxide is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown, irritating gas formed by the combination of nitric oxide and oxygen. NO_x acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens. NO_x is also an ozone precursor. A precursor is a directly emitted air contaminant that, when released into the atmosphere, forms, causes to be formed, or contributes to the formation of a secondary air contaminant for which a NAAQS has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more NAAQS. When NO_x and VOCs are released in the atmosphere, they chemically react with one another in the presence of sunlight to form ozone.

Ozone is one of a number of substances called photochemical oxidants that are formed when VOCs and NO_x (both byproducts of the internal combustion engine) react with sunlight. Ozone is present in relatively high concentrations in the SDAB, and the damaging effects of photochemical smog are generally related to ozone concentrations. Ozone may pose a health threat to those who already suffer from respiratory diseases as well as healthy people. Additionally, ozone has been tied to crop damage, typically in the form of stunted growth and pre-mature death. Ozone can also act as a corrosive, resulting in property damage such as the embitterment of rubber products.

Lead (Pb) is a solid heavy metal that can exist in air pollution as an aerosol particle component. An aerosol is a collection of solid, liquid, or mixed-phase particles suspended in the air. Lead was first regulated as an air pollutant in 1976. Leaded gasoline was first marketed in 1923 and was used in motor vehicles until around 1970. The exclusion of lead from gasoline helped to decrease emissions of lead in the United States from 219,000 to 4,000 tons per year between 1970 and 1997. Even though leaded gasoline has been phased out in most countries, some, such as Egypt and Iraq, still use at least some leaded gasoline (United Nations Environment Programme 2010). Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and physical weathering of surfaces containing lead. The mechanisms by which lead can be removed from the atmosphere (sinks) include deposition to soils, ice caps, oceans, and inhalation.

Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. The more serious effects of lead poisoning include behavioral disorders, mental retardation, and neurological impairment. Low levels of lead in fetuses and young children can result in nervous system damage, which can cause learning deficiencies and low intelligence quotients. Lead may also contribute to high blood pressure and heart disease. Lead concentrations once exceeded the state and national air quality standards by a wide margin but have not exceeded these standards at any regular monitoring station since 1982. Lead is no longer an additive to normal gasoline, which is the main reason that concentration of lead in the air is now much lower. The proposed project would not emit lead; therefore, lead has been eliminated from further review in this analysis.

Sulfur Dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfuric acid is formed from SO_2 and is an aerosol particle component that may lead to acid deposition. Acid deposition into water, vegetation, soil, or other materials can harm natural resources and materials. Sulfur oxides include SO_2 and sulfur trioxide. Although SO_2 concentrations have been reduced to levels well below state and national standards, further reductions are desirable because SO_2 is a precursor to sulfates. Sulfates are a particulate formed through the photochemical oxidation of SO_2. Long-term exposure to high levels of SO_2 can cause irritation of existing cardiovascular disease, respiratory illness, and changes in the defenses in the lungs. When people with asthma are exposed to high levels of SO_2 for short periods of time during moderate activity, effects may include wheezing, chest tightness, or shortness of breath.

Particulate Matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulate, also known as fugitive dust, are now recognized. Course particles (PM_{10}) include that portion of the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Fine particles ($PM_{2.5}$) have an aerodynamic diameter of 2.5 microns, that is 2.5 one-millionths of a meter or 0.0001 inch or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities; however, wind action on the arid landscape also contributes substantially to the local particulate loading. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Fugitive dust poses primarily two public health and safety concerns. The first concern is that of respiratory problems attributable to the suspended particulates in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive material agent (similar to sandblasting activities). Finally, fugitive dust can result in a nuisance factor due to the soiling of proximate structures and vehicles.

Diesel particulate matter is a mixture of many exhaust particles and gases that is produced when an engine burns diesel fuel. Many compounds found in diesel exhaust are carcinogenic, including 16 that are classified as possibly carcinogenic by the International Agency for Research on Cancer. Diesel particulate matter includes the particle-phase constituents in diesel exhaust. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation and exposure can cause coughs, headaches, light-headedness, and nausea. Diesel exhaust is a major source of ambient fugitive dust pollution as well, and numerous studies have linked elevated fugitive dust levels in the air to increased hospital admission, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems (OEHHA 2001) diesel particulate matter in the SDAB poses the greatest cancer risk of all the toxic air pollutants.

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 sulfur dioxide during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of sulfur dioxide to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The CAAQS for sulfates is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory 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 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 hydrogen sulfide at levels above the standard would result in exposure to a very disagreeable odor. In 1984, a CARB committee concluded that the CAAQS for hydrogen sulfide is adequate to protect public health and to significantly reduce odor annoyance.

Vinyl Chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride 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.

Toxic Air Contaminants

TACs are a category of air pollutants that have been shown to have an impact on human health but are not classified as criteria pollutants. Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including construction activities; area sources, such as architectural coatings for maintenance purposes, fuel combustion emissions from landscape maintenance equipment, and energy use from space and water heating; stationary sources, such as diesel emergency generators and laboratories; and mobile sources. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) non-carcinogenic, and long-term (chronic) non-carcinogenic. However, the emission of TACs should not automatically be equated with a significant health risk. Other factors such as the amount of the chemical, its toxicity, how it's released into the air, the weather, and the terrain can all influence whether emissions could be hazardous to human health.

4.3 Ambient Air Pollutant Levels

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of air pollutants and determine whether the ambient air quality meets the NAAQS and the CAAQS. The closest ambient monitoring station to the project site is the Escondido-E Valley Parkway station, approximately ten miles north of the project site. This station does not monitor levels of sulfur dioxide (SO_2). The next closest monitoring station that provides SO_2 data is the San Diego-1110 Beardsley Street station. Table 2 presents a summary of the ambient pollutant concentrations monitored at the Escondido-E Valley Parkway station during the last three years (2012 through 2014).

Table 2 Air Quality Monitoring Data

Pollutant	Monitoring Station	2012	2013	2014
Carbon Monoxide (CO)				
Maximum 8-hour concentration (ppm)	Escondido-E Valley Parkway	3.70	--(1)	--(1)
Days above state or federal standard (>9.0 ppm)		0	0	0
Nitrogen Dioxide (NO_2)				
Peak 1-hour concentration (ppm)	Escondido-E Valley Parkway	0.062	0.061	0.063
Days above state 1-hour standard (0.18 ppm)		0	0	0
Ozone (O_3)				
Maximum 1-hour concentration (ppm)	Escondido-E Valley Parkway	0.084	0.084	0.099
Days above 1-hour state standard (>0.09 ppm)		0	0	1
Maximum 8-hour concentration (ppm)		0.074	0.075	0.080
Days above 8-hour state standard (>0.07 ppm)		2	4	8
Days above 8-hour federal standard (>0.075 ppm)		0	0	5
Sulfur Dioxide (SO_2)				
Maximum 24-hour concentration (ppm)	San Diego-1110 Beardsley Street	0.006	0.002	0.003
Days above 24-hour state standard (>0.04 ppm)		0	0	0
Days above 24-hour federal standard (>0.14 ppm)		0	0	0
Respirable Particulate Matter (PM_{10})				
Peak 24-hour concentration ($\mu g/m^3$)	Escondido-E Valley Parkway	33	82	44
Days above state standard (>50 $\mu g/m^3$)		0	1	0
Days above federal standard (>150 $\mu g/m^3$)		0	0	0
Fine Particulate Matter ($PM_{2.5}$)				
Peak 24-hour concentration ($\mu g/m^3$)	Escondido-E Valley Parkway	70.7	56.3	82.3
Days above federal standard (>35 $\mu g/m^3$)		1	1	1

PPM = parts per million, $\mu g/m^3$ = micrograms per cubic meter
(1) Insufficient data to determine value
Source: CARB 2015

As shown in Table 2, the 1-hour ozone concentration exceeded the state standard once in 2014. The 8-hour ozone concentration exceeded the state standard in 2012, 2013, and 2014, and the federal standard in 2014. The daily PM_{10} concentration did not exceed the federal standard in the past three years. The state standard was exceeded once in 2013. The federal 24-hour $PM_{2.5}$ standard was violated once per year in 2012, 2013, and 2014.

Neither the state nor federal standards for carbon monoxide, NO_2, or SO_2 were exceeded at any time during the years 2012 through 2014. The federal annual average NO_2 standard has not been exceeded since 1978 and the California 1-hour standard has not been exceeded since 1988 (SDAPCD 2007a). With one exception during October 2003, the SDAB has not violated the state or federal standards for carbon monoxide since 1990 (SDAPCD 2007a).

4.4 Attainment Status

The classifications for ozone non-attainment range in magnitude from marginal, moderate, serious, severe, and extreme. A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or non-attainment. The SDAB federal and state attainment status is shown in Table 3. The SDAB is currently designated as a nonattainment area for the state standard for PM_{10}, $PM_{2.5}$, 1-Hour and 8-Hour ozone, and the Federal 8-Hour Standard for ozone.

Table 3 Attainment Status for the San Diego Air Basin

Pollutant	State Status	Federal Status
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Ozone (1-hour)	Nonattainment	--(1)
Ozone (8-hour)	Nonattainment	Marginal Non-attainment
Lead (Pb)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Nonattainment/ Attainment(2)	Attainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Attainment\Unclassified

(1) The federal 1-hour ozone standard was revoked in 2005 and is no longer in effect for California.
(2) PM_{10} 24-hour is in Non-attainment and PM_{10} Annual is in Attainment (SDAPCD 2013)
Source: CARB 2011, EPA 2011

4.5 Sensitive Receptors and Locations

CARB defines sensitive receptors as residences, schools, day care centers, playgrounds, and medical facilities, or other facilities that may house individuals with health conditions that would be adversely affected by changes in air quality. The sensitive receptors closest to the project area include the following:

1. Sharp Rees-Stealy Medical Center and Urgent Care, approximately 0.1 mile east of the southeast corner of the project site;
2. Kinderhouse Montessori Schools, approximately 0.3 mile southwest of the project site;
3. Westwood Elementary school, approximately 0.5 mile north of the project site;
4. Residences located on the north side of Rancho Bernardo Rd, within an approximately 0.2 mile radius off Matinal Road and Olmeda Way.

5.0 Methodology and Significance Criteria

5.1 Methodology

Construction

Regional impacts for construction are assessed using the California Emissions Estimator Model (CalEEMod, version 2013.2.2) distributed by South Coast Air Quality Management District (SCAQMD). The CalEEMod 2013.2.2 model uses EMFAC 2007 emission factors for vehicle traffic and Off-Road 2007 for construction equipment. The construction analysis included modeling of the projected construction equipment that would be used during each construction activity, quantities of earth and debris to be moved, and worker vehicle trips. Air pollutant emission sources during project construction would include exhaust and particulate emissions generated from construction equipment; fugitive dust from soil disturbance during site preparation, grading, and excavation activities; and volatile compounds that evaporate during site paving and painting of the structures.

Development on the South Education Center site is expected to last up to 18 months and includes construction of a new 1,200 ft. long loop road. Interior improvements to the existing building are included in the 18 month construction schedule but would not require diesel powered construction equipment with the potential to generate criteria pollutant emissions. Therefore, interior improvements are not included in this construction analysis.

The construction of the new loop road would require grading, fine grading, and paving. It is estimated that grading would take approximately two months, fine grading would last about one month, and paving about one week. Typical grading equipment would be used, including tractors, excavators, graders, water trucks, and pavers. The maximum depth of excavation would be approximately 10 feet for storm drain trenches and approximately 6.5 feet for rough grading. Construction would require removal of approximately 8,750 cubic yard (CY) of soil, from which 3,900 CY will be reused and spread across the graded pad. The remaining material, about 4,850 CY, will need to be exported offsite. A haul disposal facility has not been selected at this time. The CalEEMod default distance of 20 miles is assumed for the facility. A default truck capacity of 16 CY is also assumed. To be conservative, it is assumed that construction of new loop road would be simultaneous to account for the worst case daily construction emissions from all phases.

Operation

Operational impacts are also assessed using CalEEMod 2013.2.2. The model estimates daily regional emissions from vehicle and stationary sources of pollutants that would result from implementation of the project at full buildout. To conservatively estimate operational air quality emissions, this analysis assumes the maximum capacity of the proposed campus facilities. The maximum capacity represents the full student attendance, maximum vehicle trips, and full development of the PCCD South Education Center. The operational emissions include the emissions associated with the education center and the improved parking structure. Vehicle trip generation is based on the project traffic study, which was prepared by Linscott, Law and Greenspan, Engineers (LLG 2015). The projected ADT rate for buildout of the proposed project is 1,910 trips.

In addition to vehicle trips, the proposed project would emit pollutants from on-site area sources, such as burning natural gas for space and water heating, landscape maintenance equipment, consumer products, and periodic repainting of interior and exterior surfaces (architectural coatings).

Impacts to Sensitive Receptors

The two primary emissions of concern regarding health effects for sensitive receptors are carbon monoxide and diesel particulates. Areas with high vehicle density, such as congested intersections and parking garages, have the potential to create high concentrations of carbon monoxide, known as carbon monoxide hot spots. An air quality impact is considered significant if carbon monoxide emissions create a hot spot where either the California 1-hour standard of 20 ppm or the federal and State eight-hour standard of 9.0 ppm is exceeded. This typically occurs at severely congested intersections (level of service

[LOS] E or worse). have the potential to generate carbon monoxide hot spots. Therefore, the project's potential to generate a CO hotspot at intersections that operate at an LOS E or F were analyzed.

Potential CO hot spots were analyzed using the CALINE4 model. There are several inputs to the CALINE4 model. One input is the traffic volumes, which is from the project-specific traffic report. The traffic volumes with the project were used for the buildout scenario as well as emission factors generated using the EMFAC2011 model for year 2035.

Odor Impacts

Potential odor impacts are evaluated by conducting a qualitative screening-level analysis, consisting of reviewing the proposed project's site plan and project description to identify any new or modified odor sources.

5.2 Significance Criteria

Criteria Pollutants

Based on Appendix G of the CEQA Guidelines, an impact would be considered significant if the proposed project would violate any air quality standard or contribute substantially to an existing or projected air quality violation. PCCD South Education Center project relies on the significance thresholds established in the PCCD San Marcos Campus Facilities Master Plan Program Environmental Impact Report (PEIR), completed in 2009. For purposes of this analysis, the calculated criteria pollutant emissions caused by construction and operation of the project are compared to the thresholds of significance for criteria pollutants, provided in Table 4. Consistent with the PEIR, the thresholds are based on the quantitative emission thresholds established by the San Diego APCD. As part of its air quality permitting process, the APCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIA). If the thresholds are exceeded by the proposed project, then the impact is considered significant.

Table 4 Thresholds of Significance

Pollutant	Construction Emissions (pounds/day)	Operation Emissions (pounds/day)
Carbon Monoxide (CO)	550	550
Reactive organic gases (ROG)[1]	137	137
Nitrogen Oxides (NO_x)	250	250
Sulfur Oxides (SO_x)	250	250
Respirable Particulate Matter (PM_{10})	100	100
Fine Particulate Matter ($PM_{2.5}$)	100	100

Reactive organic gases are also sometimes referred to as volatile organic compounds (VOC).
Source: PCCD San Marcos Campus Facilities Master Plan PEIR (November 2009)

Based on Appendix G of the CEQA Guidelines, a project would also result in a potentially significant impact if it would:

- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people; or
- Result in a conflict with, or obstruct implementation of, the RAQS or SIP.

6.0 Impact Analysis and Mitigation Measures

6.1 Issue 1: Conformance to Federal and State Ambient Air Quality Standards

Impact Analysis

This section addresses the potential for the project to generate criteria air pollutant emissions that exceed ambient air quality standards. Construction and operational criteria air pollutant emissions that would be generated by implementation of the project are discussed below.

Construction

Air pollutant emission sources during project construction would include exhaust and particulate emissions generated from construction equipment; fugitive dust from soil disturbance during site preparation, blasting, grading, and excavation activities; and volatile compounds that evaporate during site paving and painting of the structures.

To be conservative, it is assumed that construction of the new loop road would be simultaneous to account for the worst case daily construction emissions from all phases. Table 5 provides the worst case scenario of emissions that would occur during construction. As shown in Table 5, none of the phases of construction would exceed the significance thresholds. Therefore, a significant impact would not occur during construction.

Table 5 Maximum Daily Emissions Per Construction Activity

Construction Activity	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Demolition	3	28	22	<1	2	2
Site Preparation	2	26	17	<1	7	4
Grading	2	21	15	<1	6	4
Building Construction	3	22	17	<1	2	1
Paving	2	13	10	<1	1	1
Architectural Coating	16	2	2	<1	<1	<1
Significance Threshold	137	250	550	250	100	100
Significant Impact?	No	No	No	No	Yes	No

CO = carbon monoxide; NO_x = nitrogen oxides; VOC = volatile organic compound; SO_x = sulfur oxides;
PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter
Sources: CalEEMod 2013.2.2., Appendix A for data sheets.

Operation

The vehicular and area source emissions associated with operation of the proposed project are summarized in Table 6. The proposed project would not exceed the daily regional thresholds for any criteria pollutant during operation of the education center. Therefore, operational emissions would be less than significant.

Table 6 Operation Maximum Daily Emissions

Emissions Source	Pollutant Emissions (pounds/ day)					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Vehicular Sources	23	49	230	<1	37	10
Area Sources						
Natural Gas	<1	1	1	<1	<1	<1
Landscape	<1	<1	<1	<1	<1	<1
Consumer Products	9	0	0	0	0	0
Architectural Coating	2	0	0	0	0	0
Total Emissions	35	50	232	1	37	10
Significance Thresholds	137	250	550	250	100	100
Significant Impact?	No	No	No	No	No	No

CO = carbon monoxide; NO_x = nitrogen oxides; VOC = volatile organic compounds; SO_x = sulfur oxides
PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter
Source: CalEEMod 2013.2.2. See Appendix A for data sheets.

Mitigation Measures

Construction and operation of the proposed project would not exceed the significance thresholds for any criteria pollutant. No mitigation is required.

6.2 Issue 2: Impacts to Sensitive Receptors

Impact Analysis

Carbon Monoxide Hot Spots

An air quality impact is considered significant if carbon monoxide emissions create a hot spot where either the California 1-hour standard of 20 ppm or the federal and state eight-hour standard of 9.0 ppm is exceeded. This typically occurs at severely congested intersections (level of service [LOS] E or worse).

Intersections that operate at an LOS E or F have the potential to generate carbon monoxide hot spots. The traffic study prepared for the South Education Center (LLG 2015) used project-level trip generation analysis and distribution to evaluate the intersections and road segments in the project vicinity that would carry the majority of project traffic. The traffic study analyzed the Existing + Project scenarios for near-term and long-term (Year 2035) conditions. Three intersections would operate at a LOS E under the Year 2035 + Project Scenario:

#2 Rancho Bernardo Road/Via Del Campo (AM and PM Peak Hour),
#3 Rancho Bernardo Road/Matinal Road (AM and PM Peak Hour), and
#4 Rancho Bernardo Road/Bernardo Center Drive (AM and PM Peak Hour).

The analysis of the future scenarios concluded that the project would result in worsening of the LOS at those locations, with anticipated increased delay of 5.4 second or more at these intersections compared to conditions without the proposed project. Application of mitigation measures TRA-1 through TRA-3 would reduce the impact to intersections #2 and #3 (see Appendix G, Table 15-1). However, implementation of mitigation would not reduce the impact to intersection #4 to less than significant. Therefore, the project's potential to generate a CO hotspot at intersection #4 was analyzed.

Using the CALINE4 model, potential CO hot spots were analyzed at intersection #4 during the unmitigated AM Peak hour, which is the most congested peak hour for the intersection. As shown in the table below, the proposed project would not result in a CO hotspot at intersection #4 in the AM peak hour at the long term (2035 plus project) scenario. Consequently, the project would not result in any increase in the potential for sensitive receptors to be exposed to carbon monoxide hot spots. Therefore, the potential carbon monoxide impacts would be less than significant.

Table 7 Localized Carbon Monoxide Concentrations

Intersection	Peak Hour	Estimated CO Concentration (ppm)		Thresholds (ppm)		Significant Impact?
		1 Hour	8 Hour	1 Hour	8 Hour	
#4 Rancho Bernardo Road/Bernardo Center Drive, year 2035 with project	AM	6.8	4.8	20	9	No

CO = carbon monoxide

Notes: The 1-hour concentration is the CALINE4 output (see Appendix A for model output) plus the 1-hour background concentration calculated by applying the 0.7^{-1} persistence factor to the 8 hour background concentration from Table 2.

The 8 hour project increment was calculated by multiplying the 1 hour CALINE4 output by 0.7 (persistence factor), then adding the 8 hour background concentration of 3.70 ppm (from Table 2).

Source: Caline4. See Appendix A for data sheets.

Mitigation Measures

Impacts related to sensitive receptors would be less than significant without mitigation. No mitigation is required.

6.3 Issue 3: Objectionable Odors

Impact Analysis

Offensive odors can present a nuisance to the general public, but seldom result in permanent physical damage. Offensive odors may cause agitation, anger, and concern to the public, especially in residential neighborhoods located near major sources of odor.

Construction associated with implementation of the proposed project could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust. However, construction equipment would be operating at various locations throughout the project site and construction would not take place all at once. The smell of diesel exhaust is due in most part to the presence of sulfur and the creation of hydrocarbons during combustion (Nett Technologies 2010). The use of architectural coatings and solvents may also emit odors from the evaporation of volatile organic compounds. As shown in Table 5, construction of the project would not result in significant emissions of sulfur oxides or VOCs. SDAPCD Rule 67 limits the amount of volatile organic compounds from coatings and solvents, and the project would incorporate the use of low-VOC coatings. In addition, construction near existing sensitive receptors would be temporary. Therefore, impacts associated with nuisance odors during project construction would not be significant.

The CARB's *Air Quality and Land Use Handbook* identifies a list of the most common sources of odor complaints received by local air districts. Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. The project proposes the development of educational uses on the project site, which does not typically result in a source of nuisance odors associated with operation. The project does not propose any specific new sources of odor that could affect sensitive receptors.

Additionally, SDAPCD Rule 51 prohibit emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The SDAPCD responds to odor complaints and an inspector takes enforcement action if the source is not in compliance with the SDAPCD rules and regulations (SDAPCD 2010). In the event of enforcement action, odor-causing impacts must be mitigated by appropriate means to reduce the impacts to sensitive receptors to less than significant. Therefore, the project is not anticipated to create or result in objectionable odors that may affect a substantial number of people, and odor impacts are less than significant.

Mitigation Measures

Impacts related to objectionable odors would be less than significant without mitigation. No mitigation is required.

6.4 Issue 4: Consistency with Regional Plans

Impact Analysis

The air quality plans relevant to this discussion are the SIP and RAQS. The SIP includes strategies and tactics to be used to attain and maintain acceptable air quality in the SDAB based on the NAAQS; while the RAQS includes strategies for the Basin to meet the CAAQS. Consistency is typically determined by two standards. The first standard is whether the proposed project would exceed growth assumptions contained in the RAQS and SIP. If the proposed project would exceed the RAQS or SIP growth assumptions, the second standard is whether the proposed project would increase the frequency or severity of existing air quality violations, contribute to new violations, or delay the timely attainment of air quality standards or interim reductions as specified in the RAQS.

The RAQS and SIP rely on information from the CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County of San Diego, to forecast future emissions and then determine the strategies necessary for the reduction of emissions through regulatory controls. The location of the South Education Center was strategically selected to serve an underserved population within the area. Because the project is utilizing and existing building and is anticipated to serve an existing population, it is not anticipated to have growth-inducing impacts in the area. The 2022 Facilities Master Plan (updated in 2010) shows a detailed analysis of the demographics and educational needs of the population in the area. The Master Plan accounts for the anticipated growth in student attendance and is consistent with the regional plans. Therefore, the development of the education center itself would not result in growth in the area. Because the project would be consistent with the growth projections in the SIP and RAQS, it would not conflict with the plans. Impacts related to consistency with regional plans would be less than significant.

Mitigation Measures

Impacts related to consistency with regional plans would be less than significant without mitigation. No mitigation is required.

6.5 Cumulative Impacts

Consistency with Air Quality Standards and Cumulatively Considerable Net Increase in Emissions

The geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the SDAB. San Diego County is presently designated as being a non-attainment area for the NAAQS ozone standard. The County is also a non-attainment area for the CAAQS standards for ozone, $PM_{10,}$ and $PM_{2.5}$. Therefore, a significant cumulative impact to air quality for ozone precursors (VOCs and NO_x), PM_{10}, and $PM_{2.5}$ currently exists. Consequently, the greatest concern involving criteria pollutants is whether a project would result in a cumulatively considerable net increase of PM_{10}, $PM_{2.5}$, or exceed screening-level criteria thresholds of ozone precursors (VOCs and NO_X).

A localized pollutant concentration analysis is applicable to the analysis of the cumulative impacts of construction emissions because construction emissions would be temporary. Pollutant emissions would disperse or settle out following construction and would not contribute to long-term concentrations of emissions in the SDAB. Long-term regional impacts associated with operation of the education center are discussed below. Short-term emissions from construction would present a localized health concern if multiple construction projects would take place at the same time and would exceed the significance thresholds. Therefore, construction projects that do not take place at the same time or fall below the significant thresholds do not contribute to the same short-term cumulative impact.

The City has not adopted specific emission thresholds by which to evaluate the significance of air quality impacts of projects within its jurisdiction. Additionally, the SDAPCD has not established screening thresholds for localized impacts. In lieu of any set quantitative air quality significance thresholds for localized impacts, the Localized Significance Thresholds established by the SCAQMD (SCAQMD 2009) are used to determine potential cumulative impacts. Based on the thresholds, NO_x emissions decrease approximately 95 percent beyond approximately 4,270 feet. Therefore, cumulative projects 4,270 feet from project site are excluded from the cumulative NO_x analysis. According to the Localized Significance Thresholds, PM_{10} decreases approximately 95 percent by 1,300 feet, and $PM_{2.5}$ by 1,430 feet. SCAQMD has not established a threshold for VOCs. However, VOCs diffuse quickly outdoors (California Indoor Air Quality 2011). Being of a gaseous nature similar to NO_x, it is assumed for the purposes of this analysis that VOC pollutant concentrations would disperse by 95 percent beyond 4,270 feet, similar to $NO_{x.}$ Therefore, cumulative projects 1,300 feet from the project site are excluded from the cumulative PM_{10} analysis, projects 1,430 feet from the site are excluded from the $PM_{2.5}$, and projects 4,270 feet from the site are excluded from the cumulative VOC analysis.

The area within 4,270 feet for the project site is primarily built out, with the exception of undeveloped hillsides to the northwest of the site across Rancho Bernardo Road, and several graded pads located south of the project site. The open space northwest of the project site is designated for preservation in the County of San Diego Multiple Species Conservation Program; therefore, no construction is anticipated in this area. Several graded pads are located within the business parks to the south of the project site, and may potentially be developed. It is unknown whether any construction activities are planned for these sites. Therefore, it is unlikely that these building pads would be under construction at the same time as the proposed project. Additionally, as shown in Table 5, the proposed project would not exceed any significance thresholds at the project site. As the nearby building pads have already been graded, construction in these areas would not be expected to generate substantial amounts of particulate matter during construction, similar to the fine grading phase of construction of the proposed loop road. Haul trips for the project would utilize Rancho Bernardo Road so that PM_{10} emissions associated with the proposed project would be concentrated north of the project site, further from the building pads. Therefore, construction emissions from the proposed project would not be expected to combine with construction emission from surrounding business park development such that the significance thresholds would be exceeded. This potential cumulative impact would be less than significant.

According to the County of San Diego significance threshold, which applies to projects in the SDAB, a project would result in a significant cumulatively considerable contribution to an air quality impact if the project does not conform to the RAQS or if the project has a significant direct impact to air quality. As discussed in Issue 4, the project is not anticipated to cause significant growth in the area. Additionally, as shown in Table 6, operational emissions of the proposed project, including VOCs, NO_x, carbon monoxide, PM_{10}, and $PM_{2.5}$ would not exceed the significance thresholds. Therefore, the proposed project would not result in a cumulatively significant impact.

Sensitive Receptors

The geographic context for the analysis of cumulative impacts relative to sensitive receptors is the SDAB. The traffic study prepared for the project evaluated the intersections in the project vicinity. The traffic study analyzed the Existing + Project scenario for near-term and long-term (Year 2035) conditions. The traffic impact analysis for the project analyzed potential traffic impacts from buildout of the proposed project. As shown in the traffic study, under long-term conditions two intersections would operate at a LOS E without the proposed project. Therefore, a potentially significant cumulative impact would occur. However, the project would not result in any significant additional delay at the congested intersections. Therefore, the proposed project would not result in a cumulatively considerable contribution to the potentially significant cumulative exposure of sensitive receptors to carbon monoxide.

The project would result in diesel particulate matter from the operation of construction equipment. Construction of the project would result in less than significant levels of particulate matter emissions during the construction phase, including fugitive dust and diesel emissions from construction equipment, based on the City of San Diego thresholds. Additionally, diesel particulate matter is considered to have a long-term (eight years or more) health effect related to increased risk of cancer and non-cancer chronic conditions (CARB 1998). Construction would be a short-term event lasting approximately one and a half years. The highest diesel particulate emissions from construction occurring during site preparation and grading activities, and would then be substantially reduced during subsequent construction phases. Therefore, emissions would not result in a significant long-term health risk to surrounding receptors. Consequently, the project would not result in any increase in the potential for sensitive receptors to be exposed to carbon monoxide hot spots.

Therefore, the proposed project would not result in a cumulatively considerable contribution to the potentially significant cumulative exposure of sensitive receptors to carbon monoxide or PM_{10} emissions.

Objectionable Odors

The geographic context for the analysis of cumulative impacts relative to objectionable odors is the SDAB. The project could result in minor amounts of odor compounds in association with heavy equipment diesel exhaust during the construction phase of the project. However, construction equipment would be operating at different areas throughout the project site and would not take place all at the same time. The project would not result in significant emissions of sulfur oxides or VOCs, as the project proposes the use of low-VOC coatings. Therefore, there cumulative impacts associated with nuisance odors during construction would be less than significant.

The project does not identify as a common source of odor complaints under the CARB's *Air Quality and Land Use Handbook,* which identifies typical sources of odor complaints sources, including facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. Since the project includes the development of educational uses, which do not typically result in a source of nuisance odors associated with operation, the project would not result in any specific new sources of odor that could affect sensitive receptors. Additionally, SDAPCD Rule 51 prohibits emissions from any source whatsoever in such quantities of air contaminants or other material, which could cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The project would not result in a conflict with SDAPCD Rule 51. Therefore, the project is not anticipated to create or result in objectionable odors that may affect a substantial number of people, and cumulative odor impacts are less than significant.

Consistency with Applicable Air Quality Plans

The geographic context for the analysis of cumulative impacts relative to consistency with air quality plans is the SDAB. The RAQS and SIP are intended to address cumulative impacts in the SDAB based on future growth predicted in the 2030 Regional Growth Forecast Update. As discussed above, the SDAB is currently a nonattainment area for state and federal standards for ozone, and state standards for PM_{10}, and $PM_{2.5}$. Development consistent with the applicable general plan would be generally consistent with the growth projections in the air quality plans. However, a project that conflicts with these growth projections would conflict with the RAQS and SIP and result in a cumulative impact. Cumulative development generally would not be expected to result in a significant impact in terms of conflicting with RAQS because the cumulative projects would be required to demonstrate that the proposed development is consistent with local planning documents, such as City of San Diego General Plan. As discussed in Issue 4, because the proposed project is targeting to provide educational services to an existing underserved population, it would not result in growth that would exceed the growth accounted for in the RAQS and SIP. Additionally, operational emissions of VOCs, carbon monoxide, NO_x, PM_{10}, and $PM_{2.5}$ would be below significance thresholds. Therefore, a significant cumulative impact would not occur.

6.6 Conclusion

Construction and operation of the proposed project would not exceed the air quality significance thresholds. No carbon monoxide hot spots would occur as a result of the project. No direct or cumulative impacts related to objectionable odors would occur. Therefore, no mitigation measures are required for the project. The proposed project would not result in significant growth; instead, it serves the existing population. Therefore, it would comply with RAQS and SIP.

7.0 References

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Appendix A:
Air Quality Data

PCCD SEC Construction

San Diego Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.00	1000sqft	0.02	1,000.00	0
Other Asphalt Surfaces	47.00	1000sqft	1.08	46,995.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2017
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on information from PCCD

Grading - Conservative disturbance area estimate of 1.5 acres

Demolition -

Construction Off-road Equipment Mitigation -

Architectural Coating - Assume coating all four walls (32 L * 15 H =480 SF each) and ceiling (1000 SF) outdoor, four walls (1920 SF) + Ceiling (1000) + floor indoor (1000)3

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	23,998.00	2,920.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	71,993.00	3,920.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	200.00	100.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	4.00	143.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	PhaseEndDate	11/25/2016	12/2/2016
tblConstructionPhase	PhaseEndDate	1/5/2017	6/24/2016
tblConstructionPhase	PhaseEndDate	7/1/2016	11/18/2016
tblConstructionPhase	PhaseEndDate	1/18/2016	2/1/2016
tblConstructionPhase	PhaseStartDate	11/19/2016	11/26/2016
tblConstructionPhase	PhaseStartDate	8/19/2016	2/6/2016
tblConstructionPhase	PhaseStartDate	6/25/2016	11/12/2016
tblConstructionPhase	PhaseStartDate	1/15/2016	1/29/2016
tblGrading	AcresOfGrading	53.63	1.50
tblGrading	MaterialExported	0.00	4,850.00
tblProjectCharacteristics	OperationalYear	2014	2017

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	16.2342	43.6426	31.3681	0.0440	5.8653	2.5357	7.4251	2.9711	2.3941	4.9750	0.0000	4,263.2403	4,263.2403	0.9071	0.0000	4,282.2891
Total	**16.2342**	**43.6426**	**31.3681**	**0.0440**	**5.8653**	**2.5357**	**7.4251**	**2.9711**	**2.3941**	**4.9750**	**0.0000**	**4,263.2403**	**4,263.2403**	**0.9071**	**0.0000**	**4,282.2891**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	16.2342	43.6426	31.3681	0.0440	2.6755	2.5357	4.9323	1.3466	2.3941	3.6085	0.0000	4,263.2403	4,263.2403	0.9071	0.0000	4,282.2891
Total	**16.2342**	**43.6426**	**31.3681**	**0.0440**	**2.6755**	**2.5357**	**4.9323**	**1.3466**	**2.3941**	**3.6085**	**0.0000**	**4,263.2403**	**4,263.2403**	**0.9071**	**0.0000**	**4,282.2891**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.38**	**0.00**	**33.57**	**54.68**	**0.00**	**27.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	1.3323	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0105	0.0105	3.0000e-005		0.0111
Energy	6.2000e-004	5.6500e-003	4.7400e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7784	6.7784	1.3000e-004	1.2000e-004	6.8197
Mobile	0.0370	0.0767	0.3589	8.3000e-004	0.0557	1.0200e-003	0.0567	0.0149	9.3000e-004	0.0158		70.0298	70.0298	2.8400e-003		70.0895
Total	**1.3699**	**0.0824**	**0.3686**	**8.6000e-004**	**0.0557**	**1.4700e-003**	**0.0571**	**0.0149**	**1.3800e-003**	**0.0163**		**76.8187**	**76.8187**	**3.0000e-003**	**1.2000e-004**	**76.9203**

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	1.3323	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0105	0.0105	3.0000e-005		0.0111
Energy	6.2000e-004	5.6500e-003	4.7400e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7784	6.7784	1.3000e-004	1.2000e-004	6.8197
Mobile	0.0370	0.0767	0.3589	8.3000e-004	0.0557	1.0200e-003	0.0567	0.0149	9.3000e-004	0.0158		70.0298	70.0298	2.8400e-003		70.0895
Total	**1.3699**	**0.0824**	**0.3686**	**8.6000e-004**	**0.0557**	**1.4700e-003**	**0.0571**	**0.0149**	**1.3800e-003**	**0.0163**		**76.8187**	**76.8187**	**3.0000e-003**	**1.2000e-004**	**76.9203**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/14/2016	5	10	
2	Site Preparation	Site Preparation	1/29/2016	2/1/2016	5	2	
3	Grading	Grading	2/2/2016	8/18/2016	5	143	
4	Building Construction	Building Construction	2/6/2016	6/24/2016	5	100	
5	Paving	Paving	11/12/2016	11/18/2016	5	5	
6	Architectural Coating	Architectural Coating	11/26/2016	12/2/2016	5	5	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,920; Non-Residential Outdoor: 2,920 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Paving	Pavers	1	6.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Paving	Paving Equipment	1	8.00	130	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	606.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	20.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0997	0.0000	0.0997	0.0151	0.0000	0.0151			0.0000			0.0000
Off-Road	2.9066	28.2579	21.4980	0.0245		1.7445	1.7445		1.6328	1.6328		2,487.1296	2,487.1296	0.6288		2,500.3343
Total	**2.9066**	**28.2579**	**21.4980**	**0.0245**	**0.0997**	**1.7445**	**1.8442**	**0.0151**	**1.6328**	**1.6478**		**2,487.1296**	**2,487.1296**	**0.6288**		**2,500.3343**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8000e-003	0.1401	0.1000	3.7000e-004	8.7100e-003	1.9100e-003	0.0106	2.3900e-003	1.7600e-003	4.1500e-003		37.6839	37.6839	2.7000e-004		37.6895
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291		112.9092	112.9092	5.6600e-003		113.0280
Total	**0.0552**	**0.1935**	**0.6816**	**1.7200e-003**	**0.1155**	**2.7100e-003**	**0.1182**	**0.0307**	**2.5000e-003**	**0.0332**		**150.5930**	**150.5930**	**5.9300e-003**		**150.7175**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0449	0.0000	0.0449	6.7900e-003	0.0000	6.7900e-003			0.0000			0.0000
Off-Road	2.9066	28.2579	21.4980	0.0245		1.7445	1.7445		1.6328	1.6328	0.0000	2,487.1296	2,487.1296	0.6288		2,500.3343
Total	**2.9066**	**28.2579**	**21.4980**	**0.0245**	**0.0449**	**1.7445**	**1.7894**	**6.7900e-003**	**1.6328**	**1.6395**	**0.0000**	**2,487.1296**	**2,487.1296**	**0.6288**		**2,500.3343**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.8000e-003	0.1401	0.1000	3.7000e-004	8.7100e-003	1.9100e-003	0.0106	2.3900e-003	1.7600e-003	4.1500e-003		37.6839	37.6839	2.7000e-004		37.6895
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291		112.9092	112.9092	5.6600e-003		113.0280
Total	**0.0552**	**0.1935**	**0.6816**	**1.7200e-003**	**0.1155**	**2.7100e-003**	**0.1182**	**0.0307**	**2.5000e-003**	**0.0332**		**150.5930**	**150.5930**	**5.9300e-003**		**150.7175**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	2.4428	25.7718	16.5144	0.0171		1.3985	1.3985		1.2866	1.2866		1,781.0872	1,781.0872	0.5372		1,792.3693
Total	**2.4428**	**25.7718**	**16.5144**	**0.0171**	**5.7996**	**1.3985**	**7.1981**	**2.9537**	**1.2866**	**4.2403**		**1,781.0872**	**1,781.0872**	**0.5372**		**1,792.3693**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0280	0.0328	0.3579	8.3000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		69.4826	69.4826	3.4800e-003		69.5557
Total	**0.0280**	**0.0328**	**0.3579**	**8.3000e-004**	**0.0657**	**4.9000e-004**	**0.0662**	**0.0174**	**4.5000e-004**	**0.0179**		**69.4826**	**69.4826**	**3.4800e-003**		**69.5557**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6098	0.0000	2.6098	1.3292	0.0000	1.3292			0.0000			0.0000
Off-Road	2.4428	25.7718	16.5144	0.0171		1.3985	1.3985		1.2866	1.2866	0.0000	1,781.0872	1,781.0872	0.5372		1,792.3693
Total	**2.4428**	**25.7718**	**16.5144**	**0.0171**	**2.6098**	**1.3985**	**4.0083**	**1.3292**	**1.2866**	**2.6158**	**0.0000**	**1,781.0872**	**1,781.0872**	**0.5372**		**1,792.3693**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0280	0.0328	0.3579	8.3000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		69.4826	69.4826	3.4800e-003		69.5557
Total	**0.0280**	**0.0328**	**0.3579**	**8.3000e-004**	**0.0657**	**4.9000e-004**	**0.0662**	**0.0174**	**4.5000e-004**	**0.0179**		**69.4826**	**69.4826**	**3.4800e-003**		**69.5557**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Fugitive Dust					4.5325	0.0000	4.5325	2.4846	0.0000	2.4846			0.0000			0.0000
Off-Road	1.9908	21.0361	13.6704	0.0141		1.1407	1.1407		1.0494	1.0494		1,462.8468	1,462.8468	0.4413		1,472.1130
Total	**1.9908**	**21.0361**	**13.6704**	**0.0141**	**4.5325**	**1.1407**	**5.6731**	**2.4846**	**1.0494**	**3.5340**		**1,462.8468**	**1,462.8468**	**0.4413**		**1,472.1130**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0831	1.1876	0.8477	3.1700e-003	0.0738	0.0162	0.0901	0.0202	0.0149	0.0351		319.3905	319.3905	2.2700e-003		319.4383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0280	0.0328	0.3579	8.3000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		69.4826	69.4826	3.4800e-003		69.5557
Total	**0.1110**	**1.2204**	**1.2057**	**4.0000e-003**	**0.1396**	**0.0167**	**0.1563**	**0.0377**	**0.0154**	**0.0530**		**388.8731**	**388.8731**	**5.7500e-003**		**388.9939**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0396	0.0000	2.0396	1.1181	0.0000	1.1181			0.0000			0.0000
Off-Road	1.9908	21.0361	13.6704	0.0141		1.1407	1.1407		1.0494	1.0494	0.0000	1,462.8468	1,462.8468	0.4413		1,472.1130
Total	**1.9908**	**21.0361**	**13.6704**	**0.0141**	**2.0396**	**1.1407**	**3.1803**	**1.1181**	**1.0494**	**2.1675**	**0.0000**	**1,462.8468**	**1,462.8468**	**0.4413**		**1,472.1130**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0831	1.1876	0.8477	3.1700e-003	0.0738	0.0162	0.0901	0.0202	0.0149	0.0351		319.3905	319.3905	2.2700e-003		319.4383
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0280	0.0328	0.3579	8.3000e-004	0.0657	4.9000e-004	0.0662	0.0174	4.5000e-004	0.0179		69.4826	69.4826	3.4800e-003		69.5557
Total	**0.1110**	**1.2204**	**1.2057**	**4.0000e-003**	**0.1396**	**0.0167**	**0.1563**	**0.0377**	**0.0154**	**0.0530**		**388.8731**	**388.8731**	**5.7500e-003**		**388.9939**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2915	20.5459	14.7074	0.0220		1.3656	1.3656		1.3176	1.3176		2,046.9432	2,046.9432	0.4499		2,056.3913
Total	**3.2915**	**20.5459**	**14.7074**	**0.0220**		**1.3656**	**1.3656**		**1.3176**	**1.3176**		**2,046.9432**	**2,046.9432**	**0.4499**		**2,056.3913**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0835	0.7582	0.8899	1.9000e-003	0.0531	0.0115	0.0646	0.0152	0.0105	0.0257		190.8708	190.8708	1.4800e-003		190.9017
Worker	0.0699	0.0820	0.8948	2.0800e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447		173.7064	173.7064	8.7000e-003		173.8892
Total	**0.1534**	**0.8402**	**1.7847**	**3.9800e-003**	**0.2174**	**0.0127**	**0.2301**	**0.0587**	**0.0117**	**0.0704**		**364.5772**	**364.5772**	**0.0102**		**364.7909**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2915	20.5459	14.7074	0.0220		1.3656	1.3656		1.3176	1.3176	0.0000	2,046.943 2	2,046.943 2	0.4499		2,056.391 3
Total	**3.2915**	**20.5459**	**14.7074**	**0.0220**		**1.3656**	**1.3656**		**1.3176**	**1.3176**	**0.0000**	**2,046.943 2**	**2,046.943 2**	**0.4499**		**2,056.391 3**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0835	0.7582	0.8899	1.9000e-003	0.0531	0.0115	0.0646	0.0152	0.0105	0.0257		190.8708	190.8708	1.4800e-003		190.9017
Worker	0.0699	0.0820	0.8948	2.0800e-003	0.1643	1.2300e-003	0.1655	0.0436	1.1300e-003	0.0447		173.7064	173.7064	8.7000e-003		173.8892
Total	**0.1534**	**0.8402**	**1.7847**	**3.9800e-003**	**0.2174**	**0.0127**	**0.2301**	**0.0587**	**0.0117**	**0.0704**		**364.5772**	**364.5772**	**0.0102**		**364.7909**

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2872	13.2076	9.0880	0.0133		0.8075	0.8075		0.7438	0.7438		1,368.4366	1,368.4366	0.4053		1,376.9473
Paving	0.5659					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8531**	**13.2076**	**9.0880**	**0.0133**		**0.8075**	**0.8075**		**0.7438**	**0.7438**		**1,368.4366**	**1,368.4366**	**0.4053**		**1,376.9473**

3.6 Paving - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day							lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291		112.9092	112.9092	5.6600e-003		113.0280
Total	**0.0454**	**0.0533**	**0.5816**	**1.3500e-003**	**0.1068**	**8.0000e-004**	**0.1076**	**0.0283**	**7.4000e-004**	**0.0291**		**112.9092**	**112.9092**	**5.6600e-003**		**113.0280**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day							lb/day			
Off-Road	1.2872	13.2076	9.0880	0.0133		0.8075	0.8075		0.7438	0.7438	0.0000	1,368.4366	1,368.4366	0.4053		1,376.9473
Paving	0.5659					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8531**	**13.2076**	**9.0880**	**0.0133**		**0.8075**	**0.8075**		**0.7438**	**0.7438**	**0.0000**	**1,368.4366**	**1,368.4366**	**0.4053**		**1,376.9473**

3.6 Paving - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291		112.9092	112.9092	5.6600e-003		113.0280
Total	**0.0454**	**0.0533**	**0.5816**	**1.3500e-003**	**0.1068**	**8.0000e-004**	**0.1076**	**0.0283**	**7.4000e-004**	**0.0291**		**112.9092**	**112.9092**	**5.6600e-003**		**113.0280**

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.8517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	**16.2202**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**		**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.7 Architectural Coating - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0140	0.0164	0.1790	4.2000e-004	0.0329	2.5000e-004	0.0331	8.7200e-003	2.3000e-004	8.9400e-003		34.7413	34.7413	1.7400e-003		34.7778
Total	**0.0140**	**0.0164**	**0.1790**	**4.2000e-004**	**0.0329**	**2.5000e-004**	**0.0331**	**8.7200e-003**	**2.3000e-004**	**8.9400e-003**		**34.7413**	**34.7413**	**1.7400e-003**		**34.7778**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.8517					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	**16.2202**	**2.3722**	**1.8839**	**2.9700e-003**		**0.1966**	**0.1966**		**0.1966**	**0.1966**	**0.0000**	**281.4481**	**281.4481**	**0.0332**		**282.1449**

3.7 Architectural Coating - 2016

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0140	0.0164	0.1790	4.2000e-004	0.0329	2.5000e-004	0.0331	8.7200e-003	2.3000e-004	8.9400e-003		34.7413	34.7413	1.7400e-003		34.7778
Total	**0.0140**	**0.0164**	**0.1790**	**4.2000e-004**	**0.0329**	**2.5000e-004**	**0.0331**	**8.7200e-003**	**2.3000e-004**	**8.9400e-003**		**34.7413**	**34.7413**	**1.7400e-003**		**34.7778**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	0.0370	0.0767	0.3589	8.3000e-004	0.0557	1.0200e-003	0.0567	0.0149	9.3000e-004	0.0158		70.0298	70.0298	2.8400e-003		70.0895
Unmitigated	0.0370	0.0767	0.3589	8.3000e-004	0.0557	1.0200e-003	0.0567	0.0149	9.3000e-004	0.0158		70.0298	70.0298	2.8400e-003		70.0895

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	11.01	2.37	0.98	19,937	19,937
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	11.01	2.37	0.98	19,937	19,937

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510423	0.073380	0.192408	0.132453	0.036550	0.005219	0.012745	0.022253	0.001862	0.002079	0.006550	0.000609	0.003468

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.2000e-004	5.6500e-003	4.7400e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7784	6.7784	1.3000e-004	1.2000e-004	6.8197
NaturalGas Unmitigated	6.2000e-004	5.6500e-003	4.7400e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7784	6.7784	1.3000e-004	1.2000e-004	6.8197

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	57.6164	6.2000e-004	5.6500e-003	4.7400e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7784	6.7784	1.3000e-004	1.2000e-004	6.8197
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.2000e-004**	**5.6500e-003**	**4.7400e-003**	**3.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**		**6.7784**	**6.7784**	**1.3000e-004**	**1.2000e-004**	**6.8197**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.0576164	6.2000e-004	5.6500e-003	4.7400e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7784	6.7784	1.3000e-004	1.2000e-004	6.8197
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.2000e-004**	**5.6500e-003**	**4.7400e-003**	**3.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**		**6.7784**	**6.7784**	**1.3000e-004**	**1.2000e-004**	**6.8197**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.3323	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0105	0.0105	3.0000e-005		0.0111
Unmitigated	1.3323	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0105	0.0105	3.0000e-005		0.0111

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3047					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.0271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-004	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0105	0.0105	3.0000e-005		0.0111
Total	**1.3323**	**5.0000e-005**	**4.9900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0105**	**0.0105**	**3.0000e-005**		**0.0111**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3047					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.0271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-004	5.0000e-005	4.9900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0105	0.0105	3.0000e-005		0.0111
Total	**1.3323**	**5.0000e-005**	**4.9900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0105**	**0.0105**	**3.0000e-005**		**0.0111**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

PCCD Education Center

San Diego Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1.00	1000sqft	0.02	1,000.00	0
Junior College (2Yr)	5,625.00	Student	5.64	110,000.00	0
Parking Lot	218.00	Space	1.96	87,200.00	0
Unenclosed Parking with Elevator	574.00	Space	5.17	229,600.00	0

1.2 Other Project Characteristics

Urbanization Urban **Wind Speed (m/s)** 2.6 **Precipitation Freq (Days)** 40

Climate Zone 13 **Operational Year** 2017

Utility Company San Diego Gas & Electric

CO2 Intensity (lb/MWhr) 720.49 **CH4 Intensity (lb/MWhr)** 0.029 **N2O Intensity (lb/MWhr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - From Project Description

Construction Phase -

Vehicle Trips - Consistent with traffic report

Landscape Equipment - Landscape working days

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Area Mitigation - Based on SDAPCD regs

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	0
tblLandscapeEquipment	NumberSummerDays	180	240
tblLandUse	LandUseSquareFeet	245,543.83	110,000.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblVehicleTrips	ST_TR	2.37	0.00
tblVehicleTrips	ST_TR	0.42	1.20
tblVehicleTrips	SU_TR	0.98	0.00
tblVehicleTrips	SU_TR	0.04	1.20
tblVehicleTrips	WD_TR	11.01	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.0959	42.7530	34.5004	0.0415	0.1232	2.1261	2.2493	0.0327	1.9805	2.0132	0.0000	4,161.7200	4,161.7200	1.1134	0.0000	4,185.1005
Total	**4.0959**	**42.7530**	**34.5004**	**0.0415**	**0.1232**	**2.1261**	**2.2493**	**0.0327**	**1.9805**	**2.0132**	**0.0000**	**4,161.7200**	**4,161.7200**	**1.1134**	**0.0000**	**4,185.1005**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	4.0959	42.7530	34.5004	0.0415	0.1232	2.1261	2.2493	0.0327	1.9805	2.0132	0.0000	4,161.7200	4,161.7200	1.1134	0.0000	4,185.1005
Total	**4.0959**	**42.7530**	**34.5004**	**0.0415**	**0.1232**	**2.1261**	**2.2493**	**0.0327**	**1.9805**	**2.0132**	**0.0000**	**4,161.7200**	**4,161.7200**	**1.1134**	**0.0000**	**4,185.1005**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	11.3985	6.3300e-003	0.6676	5.0000e-005		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003		1.4046	1.4046	3.9100e-003		1.4867
Energy	0.1240	1.1275	0.9471	6.7700e-003		0.0857	0.0857		0.0857	0.0857		1,353.0153	1,353.0153	0.0259	0.0248	1,361.2495
Mobile	23.1197	49.4347	230.1467	0.5399	36.2711	0.6582	36.9294	9.6826	0.6059	10.2885		45,537.0341	45,537.0341	1.8378		45,575.6283
Total	**34.6423**	**50.5685**	**231.7615**	**0.5467**	**36.2711**	**0.7463**	**37.0175**	**9.6826**	**0.6940**	**10.3766**		**46,891.4540**	**46,891.4540**	**1.8677**	**0.0248**	**46,938.3645**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	11.3985	6.3300e-003	0.6676	5.0000e-005		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003		1.4046	1.4046	3.9100e-003		1.4867
Energy	0.1133	1.0301	0.8653	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.1441	1,236.1441	0.0237	0.0227	1,243.6670
Mobile	23.1197	49.4347	230.1467	0.5399	36.2711	0.6582	36.9294	9.6826	0.6059	10.2885		45,537.0341	45,537.0341	1.8378		45,575.6283
Total	**34.6316**	**50.4711**	**231.6797**	**0.5461**	**36.2711**	**0.7389**	**37.0101**	**9.6826**	**0.6866**	**10.3692**		**46,774.5828**	**46,774.5828**	**1.8654**	**0.0227**	**46,820.7820**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.03**	**0.19**	**0.04**	**0.11**	**0.00**	**0.99**	**0.02**	**0.00**	**1.07**	**0.07**	**0.00**	**0.25**	**0.25**	**0.12**	**8.67**	**0.25**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73

Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797		4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**		**2.1252**	**2.1252**		**1.9797**	**1.9797**		**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0559	0.6070	1.5600e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		125.2526	125.2526	6.0400e-003		125.3794
Total	**0.0477**	**0.0559**	**0.6070**	**1.5600e-003**	**0.1232**	**9.0000e-004**	**0.1241**	**0.0327**	**8.3000e-004**	**0.0335**		**125.2526**	**125.2526**	**6.0400e-003**		**125.3794**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0482	42.6971	33.8934	0.0399		2.1252	2.1252		1.9797	1.9797	0.0000	4,036.4674	4,036.4674	1.1073		4,059.7211
Total	**4.0482**	**42.6971**	**33.8934**	**0.0399**		**2.1252**	**2.1252**		**1.9797**	**1.9797**	**0.0000**	**4,036.4674**	**4,036.4674**	**1.1073**		**4,059.7211**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0559	0.6070	1.5600e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		125.2526	125.2526	6.0400e-003		125.3794
Total	**0.0477**	**0.0559**	**0.6070**	**1.5600e-003**	**0.1232**	**9.0000e-004**	**0.1241**	**0.0327**	**8.3000e-004**	**0.0335**		**125.2526**	**125.2526**	**6.0400e-003**		**125.3794**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	23.1197	49.4347	230.1467	0.5399	36.2711	0.6582	36.9294	9.6826	0.6059	10.2885		45,537.0341	45,537.0341	1.8378		45,575.6283
Unmitigated	23.1197	49.4347	230.1467	0.5399	36.2711	0.6582	36.9294	9.6826	0.6059	10.2885		45,537.0341	45,537.0341	1.8378		45,575.6283

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Junior College (2Yr)	6,750.00	6,750.00	6750.00	17,141,875	17,141,875
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	6,750.00	6,750.00	6,750.00	17,141,875	17,141,875

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Junior College (2Yr)	9.50	7.30	7.30	6.40	88.60	5.00	92	7	1
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH

0.510423	0.073380	0.192408	0.132453	0.036550	0.005219	0.012745	0.022253	0.001862	0.002079	0.006550	0.000609	0.003468

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1133	1.0301	0.8653	6.1800e-003		0.0783	0.0783		0.0783	0.0783		1,236.1441	1,236.1441	0.0237	0.0227	1,243.6670
NaturalGas Unmitigated	0.1240	1.1275	0.9471	6.7700e-003		0.0857	0.0857		0.0857	0.0857		1,353.0153	1,353.0153	0.0259	0.0248	1,361.2495

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	57.6164	6.2000e-004	5.6500e-003	4.7400e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7784	6.7784	1.3000e-004	1.2000e-004	6.8197
Junior College (2Yr)	11443	0.1234	1.1219	0.9424	6.7300e-003		0.0853	0.0853		0.0853	0.0853		1,346.2369	1,346.2369	0.0258	0.0247	1,354.4299

Total		**0.1240**	**1.1275**	**0.9471**	**6.7600e-003**		**0.0857**	**0.0857**		**0.0857**	**0.0857**		**1,353.0153**	**1,353.0153**	**0.0259**	**0.0248**	**1,361.2495**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	0.0530055	5.7000e-004	5.2000e-003	4.3700e-003	3.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004		6.2359	6.2359	1.2000e-004	1.1000e-004	6.2739
Junior College (2Yr)	10.4542	0.1127	1.0249	0.8609	6.1500e-003		0.0779	0.0779		0.0779	0.0779		1,229.9081	1,229.9081	0.0236	0.0226	1,237.3932
Total		**0.1133**	**1.0301**	**0.8653**	**6.1800e-003**		**0.0783**	**0.0783**		**0.0783**	**0.0783**		**1,236.1441**	**1,236.1441**	**0.0237**	**0.0227**	**1,243.6670**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.3985	6.3300e-003	0.6676	5.0000e-005		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003		1.4046	1.4046	3.9100e-003		1.4867
Unmitigated	11.3985	6.3300e-003	0.6676	5.0000e-005		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003		1.4046	1.4046	3.9100e-003		1.4867

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1792					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.1549					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0644	6.3300e-003	0.6676	5.0000e-005		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003		1.4046	1.4046	3.9100e-003		1.4867
Total	**11.3985**	**6.3300e-003**	**0.6676**	**5.0000e-005**		**2.4100e-003**	**2.4100e-003**		**2.4100e-003**	**2.4100e-003**		**1.4046**	**1.4046**	**3.9100e-003**		**1.4867**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1792					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.1549					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0644	6.3300e-003	0.6676	5.0000e-005		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003		1.4046	1.4046	3.9100e-003		1.4867
Total	**11.3985**	**6.3300e-003**	**0.6676**	**5.0000e-005**		**2.4100e-003**	**2.4100e-003**		**2.4100e-003**	**2.4100e-003**		**1.4046**	**1.4046**	**3.9100e-003**		**1.4867**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: #4 Rancho Bernardo Rd/ W. Bernardo Dr
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S	Z0= 100. CM	ALT= 8924. (M)
BRG= WORST CASE	VD= 0.0 CM/S	
CLAS= 7 (G)	VS= 0.0 CM/S	
MIXH= 1000. M	AMB= 0.0 PPM	
SIGTH= 5. DEGREES	TEMP= 3.3 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NB External	12	0	12	600	AG	442	1.2	0.0	14.6
B. NB Approach	12	600	12	757	AG	270	1.4	0.0	14.6
C. NB Depart	12	757	12	915	AG	455	1.4	0.0	14.6
D. NB External	12	915	12	1515	AG	455	1.2	0.0	14.6
E. NB Left	12	600	6	757	AG	172	1.4	0.0	14.6
F. SB Left	0	915	6	757	AG	680	1.4	0.0	14.6
G. SB External	0	1515	0	915	AG	1239	1.2	0.0	14.6
H. SB Approach	0	915	0	757	AG	559	1.4	0.0	14.6
I. SB Depart	0	757	0	600	AG	1088	1.4	0.0	14.6
J. SB External	0	600	0	0	AG	1088	1.2	0.0	14.6
K. EB External	-750	750	-150	750	AG	1010	1.2	0.0	17.9
L. EB Approach	-150	750	6	750	AG	945	1.4	0.0	17.9
M. EB Depart	6	750	162	750	AG	1697	1.4	0.0	17.9
N. EB External	162	750	762	750	AG	1697	1.2	0.0	17.9
O. WB External	762	765	162	765	AG	2988	1.2	0.0	17.9
P. WB Approach	162	765	6	765	AG	2378	1.4	0.0	17.9
Q. WB Depart	6	765	-150	765	AG	2439	1.4	0.0	17.9
R. WB External	-150	765	-750	765	AG	2439	1.2	0.0	17.9
S. EB Left	-150	750	6	757	AG	65	1.4	0.0	17.9
T. WB Left	162	765	6	757	AG	610	1.4	0.0	17.9

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: #4 Rancho Bernardo Rd/ W. Bernardo Dr
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. Receptor	-9	740	2.0

2. Receptor	*	20	740	2.0
3. Receptor	*	20	775	2.0
4. Receptor	*	-9	775	2.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	*	BRG (DEG)	*	PRED CONC (PPM)	*	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. Receptor	*	84.	*	1.3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Receptor	*	84.	*	1.1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Receptor	*	265.	*	1.3	*	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1
4. Receptor	*	95.	*	1.5	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. Receptor	*	0.1	0.0	0.0	0.0	0.5	0.1	0.3	0.1	0.0	0.0	0.0	0.1
2. Receptor	*	0.0	0.0	0.0	0.0	0.6	0.1	0.3	0.1	0.0	0.0	0.0	0.0
3. Receptor	*	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.7	0.2	0.0	0.0
4. Receptor	*	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.7	0.1	0.0	0.0	0.1

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