Correia Middle School Sports Complex Project
Draft EIR

Appendix G

Air Quality Assessment

Prepared by Ldn Consulting, Inc.

December 1, 2014

AIR QUALITY ASSESSMENT

Correia Middle School Sports Complex Expansion Project

City of San Diego CA

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EXECUTIVE SUMMARY

This air quality impact study has been completed to determine if air quality impacts would be associated with construction or operational activities from the Correia Sports Field renovation project at the Correia Middle School site in the City of San Diego.

The proposed project is the construction and operation of a new Sports Complex on the Correia Middle School campus. The complex would include an improved baseball field (including additional bleachers and a concession stand with restroom facilities), track and field facilities (including a long jump pit), four multi-purpose fields (including artificial turf with an irrigation type cooling system), new classroom and restroom buildings, and installation of ten field lighting poles and fixtures.

The project would also replace temporary classrooms with a permanent two-story classroom. The project would require less than 20,000 CY of earthwork with about 7,000 CY of construction debris and excess soil to be exported offsite. Altogether, if the project is expected to begin early 2017 and be completed early 2018.

Based upon our analysis, no significant fugitive dust or criteria pollutant impacts are expected. Given this, no construction mitigation measures are required beyond standard Grading BMPs which may be required by the City of San Diego. Likewise, no cumulative construction impacts are expected.

No significant direct or operational area emissions are expected from the proposed project. Also, since the project would not modify zoning and the use would be consistent with existing land use designations the project would be compliant with the RAQS.

Furthermore, the proposed project would not create micro-scale carbon monoxide impacts or significant operational odors. Therefore, no additional mitigation measures are required for the project to comply with CEQA.

1.0 INTRODUCTION

1.1 Purpose of this Study

The purpose of this Air Quality study is to determine potential air quality impacts (if any) that may be created by the construction or operational related activities and emissions of this project. Should impacts be determined, the intent of this study would be to recommend suitable mitigation measures to bring those impacts to a level that would be considered less than significant.

1.2 Project Location

The proposed project is located on the San Diego Unified School District's Correia Middle School Campus within the City of San Diego. The project is bounded by Famosa Boulevard to the southeast, Valeta Street to the northeast, and a park along Nimitz Boulevard to the southwest. Access to the project is provided via Valeta Street. A general project vicinity map is shown in Figure 1–A on the page 3 of this report.

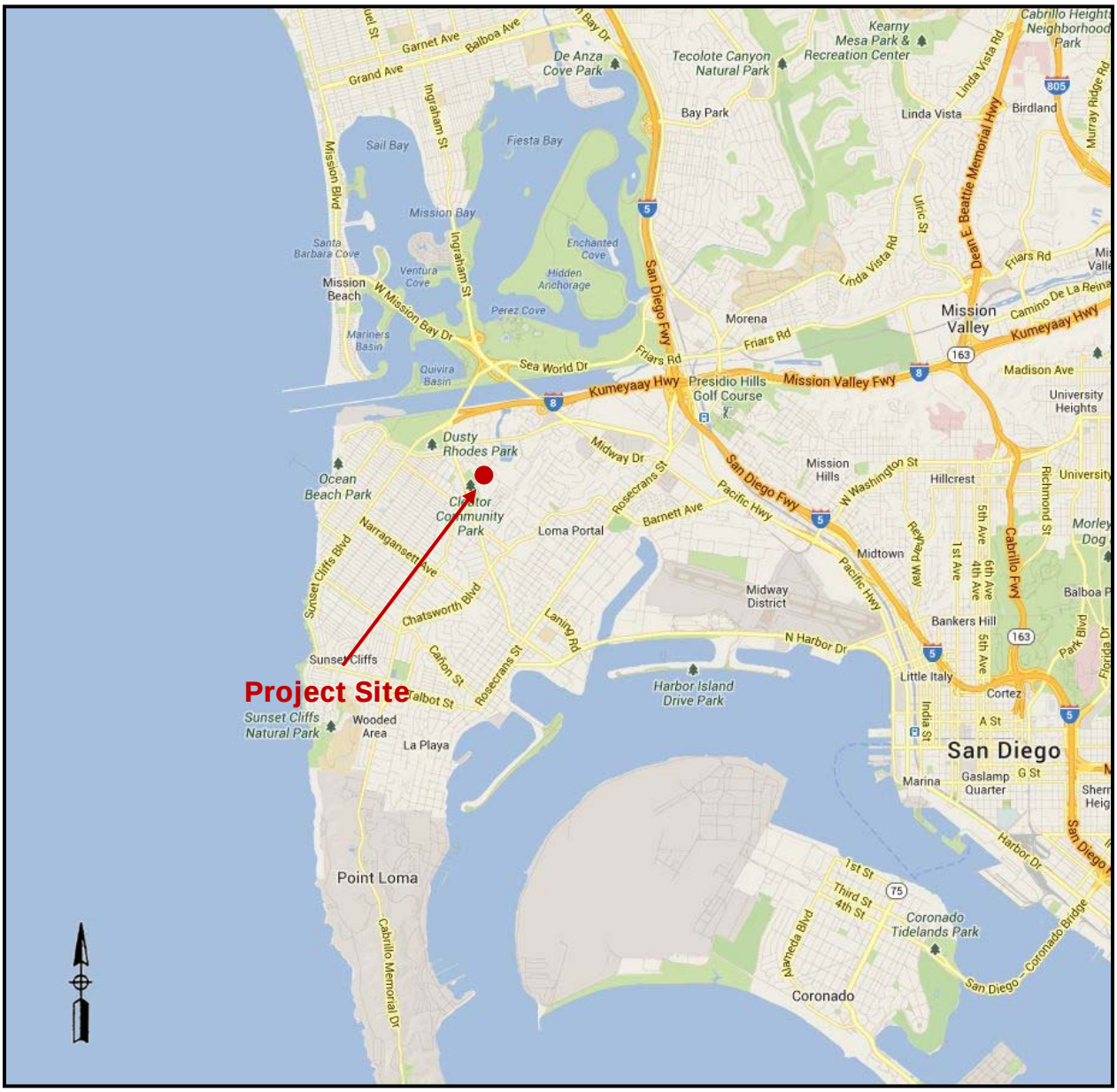
1.3 Project Description

The Proposed Project is the construction and operation of a new Sports Complex on the Correia Middle School campus. The complex will include: 1) a natural turf softball field that can also accommodate field sports in the outfield area; 2) an artificial turf play field with multiple markings for either one football field or a combination of two other field sports; and, 3) a hard court play area. Additional project features will include: a long jump pit; a classroom/team room building; a restroom/ concession/storage building; sports field lighting of the natural and artificial turf play areas; a new paved pedestrian walkway connecting the different sports venues; a new electrical service; new field irrigation and cooling infrastructure; and, landscaping.

During school hours, the Proposed Project will only be available for use by Correia students. After school hours, the complex will be open to use by Correia students and limited use by Point Loma High School students, and could also be rented on a limited basis to public and private sports teams/clubs for community use on evenings and weekends in accordance with the District's Administrative Procedures No. 9205 and 9229.

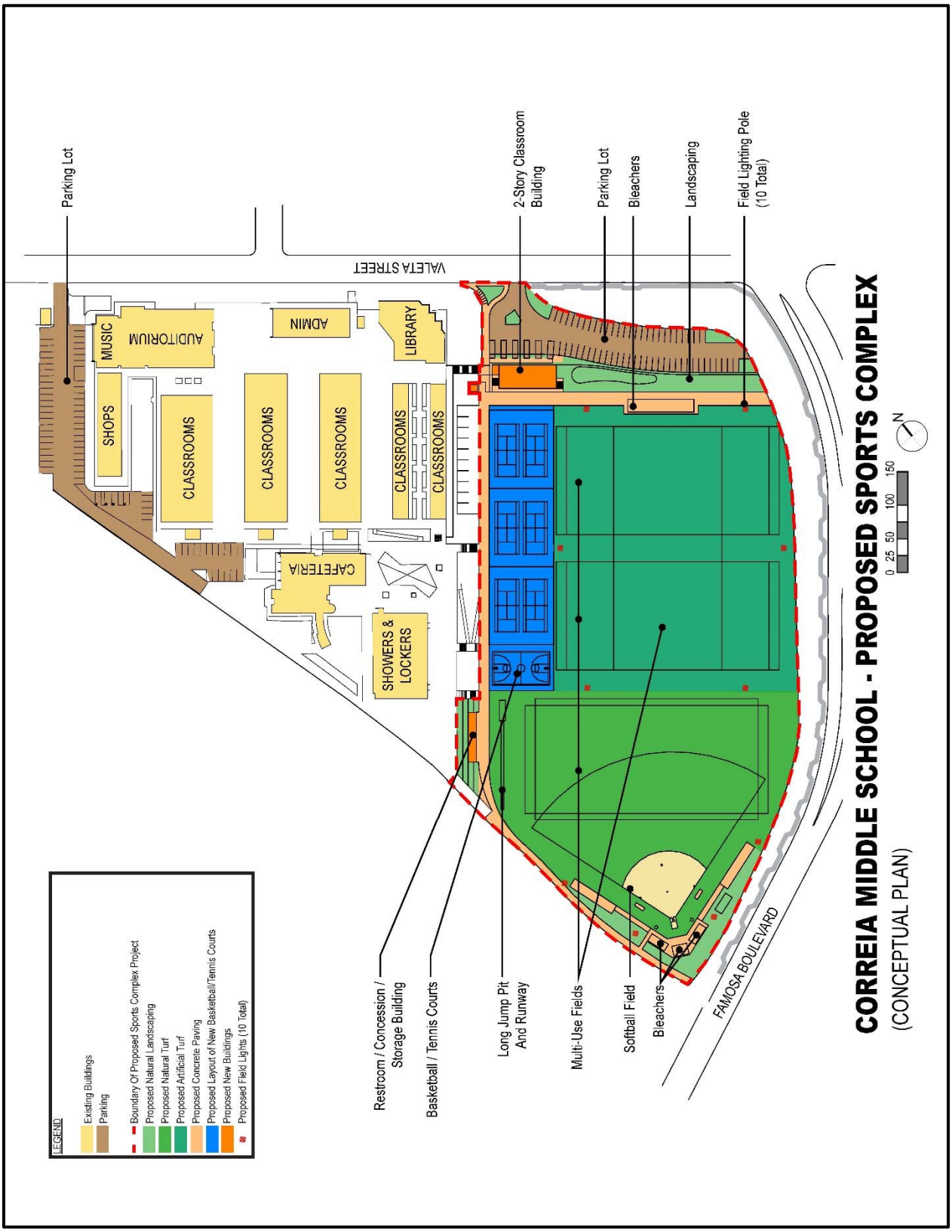
The Site plan is shown in Figure 1–B on Page 3 of this report. The physical layout of the proposed Sports Complex includes multi-use fields, a new baseball field, new hard courts, long jump pit, new buildings, field lighting, and new landscaping.

Figure 1-A: Project Vicinity Map



Source: Google Maps, 2013

Figure 1-B: Proposed Site Layout



The following describes the specific development components proposed within the new complex:

1. Multi-use Fields

   The artificial turf portion of the sports complex will be provided with markings for two parallel playfields with their long dimensions in the northwest/southeast orientation and a superimposed playfield with its long dimension oriented in the southwest/northeast direction. The parallel fields will be marked for lacrosse (330′ long x 180′ wide), soccer (300′ long a 180′ wide) and field hockey (300′ long x 180′ wide) and the perpendicular field will be marked for football (360′ long x 160′ wide). All fields meet the size requirements of the National Federation of State School Association's standards for competitive play areas;

   The equipment for the multi-use fields will include: removable football goal posts; removable soccer goals; removable lacrosse goals; removable field hockey goals; and, associated corner markers for each sport, as appropriate; and, One set of portable five (5) row aluminum bleachers (300 seats) will be placed along the northeastern end of the multi-use field.

2. Softball Field (replace the existing baseball field)

   The natural turf portion of the sports complex will include a softball field with: 60′ base paths; a 250′ outfield fence line; and 25′ wide foul areas. The softball field will be positioned so that the turf area beyond the skinned infield can be used to accommodate field sport play, including football (360′ x 160′) or an oversized soccer field (360′ x 200′); The softball field will be provided with: an illuminated scoreboard; roofed dugouts and fence-enclosed bullpens; and new aluminum bleachers (not to exceed the seating capacity of the existing baseball field currently occupying the site [approximately 200 seats.

3. Hard Court Area

   Six tennis courts with fence enclosure; and,
   One basketball court.

4. Field Lighting

   Based on preliminary design, ten light poles are proposed to provide field lighting at multiple locations within the field. Figure 1-3 depicts the proposed location of each of

the poles. Pole heights will range from 70 and 80 feet in height (2 @ 70' and 8 @ 80'). Each pole will support an array of 5-12 1,500W light fixtures (total of 92 fixtures). In addition, each fixture will be fitted with an external visor to reduce glare and a reflective insert to focus light onto the playing field.

5. Additional Features

Long jump pit and runway, including a rubberized runway and a sand landing pit;
Approximately 6,200 square foot two-story classroom/team room building and related parking lot improvements (this building will replace two existing portable classroom buildings and one portable restroom located in the same area);

Approximately 1,000 square foot concession/restroom/equipment storage building located for convenient access to and from the play fields and spectator areas;

A handicap accessible concrete walkway extending from the sports complex entrance to the softball field, the multi-use play areas and the hard court area as well as the two new buildings; and,

A new 480 volt electrical service to provide the power required for the field lighting and the new structures.

1.4 Sports Complex Operations

Currently, athletic events at Correia Middle School are possible only during daylight hours. These existing events include school physical education programs and softball games. With development of the Proposed Project, the new permanent field lighting will allow for sporting events, such as team practices and community league sports team events to be held at night after school hours. In addition, the Proposed Project will be available for weekend rentals by non-school related sports leagues as allowed under the District's Administrative Procedures No. 9205 and 9229 (i.e., soccer, youth sports, etc), as well as special District events such as school graduation events.

As such the Proposed Project is anticipated to accommodate expanded uses of the facility. These uses can include school related practices and competitions (games); special events such as graduation and pep rallies; community uses (like club sports) and events (such as ASB events); and other various uses. The expanded use of the Proposed Project is expected to occur due to increased demand (resulting from an expanding athletic program and because the new field may be preferred over other older fields) and because the lights will accommodate usage after sunset.

Approving and scheduling uses of the Proposed Project is under the ultimate authority of the Board of Education. However, the Principal will have responsibility for coordinating and scheduling day-to-day usage. The schedule for using the Proposed Project will have the potential to change every year as athletic programs expand and change, and as different community needs and events are identified. Therefore, it is difficult to forecast what the likely usage of the Proposed Project will be. In accordance with District Administrative Procedure No. 9205, school facilities are to be made available after 5 pm on school days and after 8 am on non-school days when the proposed outside use does not interfere with the District's educational program or maintenance of the facilities. Upon approval of the principal, school facilities may be made available before 5 pm on school days, even when school is in session, or before 8 am on non-school days, for groups and activities eligible for free use of facilities. Upon approval of the Rentals Office, Real Estate Department, facilities may be made available before 5 pm on school days after school is out for groups and activities not eligible for free use. The Proposed Project is proposed to be available for use any day of the week up until an 11:00 pm mandatory cutoff time for the lights. The typical uses associated with the Proposed Project are provided in Table 1-1. As shown in Table 1-1, various games, practices, and events are anticipated that would require the use of the field lights. Table 1-1 provides the typical ending time for those activities. The school would minimize the operation of the lights when they are not in use. The majority of these uses currently do not occur at the school but they are considered likely to occur with the implementation of the Proposed Project.

To provide a conservative assessment of potential impacts resulting from the use of the Proposed Project, this document considers the potential effects of usage of the complex on any day of the week. It was also assumed that the lights could be used any day up to 11:00 pm

Third Party Use of the Sports Complex

The District may allow third parties to utilize the Proposed Project. The District in July 2014 revised Administrative Procedure 9229 regarding use of District athletic fields and lighted stadiums in accordance with the Civic Center Act. Under the Civic Center Act, organizations, clubs, and associations formed for recreational, educational, political, economic, artistic or moral purposes are permitted by state law and district policy to use school buildings and grounds. "Civic Center use" must be subordinate to and not interfere with the instructional program or other public school purposes. Such use may be on either a free or a rental-charge basis. Upon receipt of a facilities use request from an outside group, the District shall consider whether the proposed use is appropriate for the requested facility; considering the potential impact on the school and the community, the availability of sufficient parking, security, custodial services, restrooms and other services needed to

accommodate the use. The District may direct an outside group to that facility most appropriate for the proposed use, taking into account the above factors.

The Board of Education, in accordance with Administrative Procedure 9229, may adopt site-specific field use policies which take into consideration the specific needs and constraints of the campus; including the specific needs and practices of the school, the adequacy and condition of the facility, the physical location of the site, the needs of the community, the impact of the Proposed Project on the surrounding community, and the extent to which negative impacts to the surrounding community can be mitigated by the employment of reasonable restrictions. A site specific field use policy has not been developed for Proposed Project at Correia Middle School.

Table 1-1: Typical High School Stadium Usage

Use/Activity	Season	Number per Season*	Attendance	Typical Days	Typical Latest Time	Lights Likely to be Used
School District Uses						
Baseball Practice – Var, JV, Fresh	Any	Weekly	Low	Mon-Sat	8 pm	Y
Baseball Games– Var, JV, Fresh		150	Med	Mon-Sat	8 pm	Y
Correia Sports Teams		Weekly	Low	Mon-Sat	8 pm	Y
Graduation**	June	1	High	Any	6 pm	N
Other School Events	Any	>5	Med	Any	10pm	Y
Community Uses						
Youth Pop Warner Practice	Aug-Nov	70	Low	Mon-Sun	10pm	Y
Youth Pop Warner Game	Aug-Nov	5	Low-Med	Sat	10pm	Y
Youth Club Sports	Year round	Weekly	Low-Med	Any	10pm	Y
Adult Club Sports	Year round	Weekly	Low-Med	Any	10pm	Y
Community Events	Year round	Occasional	Low-Med	Any	10pm	Y

* All numbers are approximate.

**Graduation is an existing event at the school, there will be no change in this event.

Attendance: Low=<50; Med=50-300; High=300-1500+ attendees

Source: SDUSD and BRG Consulting, Inc., 2014.

Sports Complex Weekly Usage Estimate

To provide a conservative assessment of potential impacts resulting from the use of the Proposed Project, this document considers the potential effects of usage of the Proposed Project for school or third parties on any day of the week. It was also assumed that the lights could be used any day up to 11:00 pm. The typical, but not limited to, uses associated with a Sports Complex are provided in Table 1-1. The majority of these uses currently do not occur at the school but they are considered likely to occur with the implementation of the proposed Sports Complex.

To provide a conservative assessment of potential impacts resulting from the use of the proposed Sports Complex, this document considers the potential effects of usage of the complex on any day of the week. It was also assumed that the lights could be used any day up to 11 p.m. However, as shown on Table 1-1, even with a robust athletic program and some accommodation of other general uses, it is unlikely that intensive events, such as a highly attended event, will occur on a frequent basis.

The Proposed Project includes the following artificial lighting improvements: Musco Light-Structure Green™ sports lighting system throughout the site. Based on preliminary design, a total of ten light standards are proposed to be constructed on-site. Four (4) light standards will be constructed in the southern portion of the site to illuminate the upgraded softball field. Six (6) lighting standards are proposed at the perimeter of the three multi-use fields in the northern portion of the site, with two (2) lighting standards occurring at the southwestern portion of the fields, two (2) lighting standards at the northeastern portion of the fields, and two (2) lighting standards proposed at the northwestern and southeastern edges of the field. In total, 92 luminaires will be installed on the ten lighting standards proposed as part of the Proposed Project. In addition, each fixture will be fitted with an external visor to reduce glare and a reflective insert to focus light onto the playing fields.

The light fixtures on the ten proposed lighting poles are designed to be fully shielded and directed onto the athletic fields with no light spillage onto adjacent property. A mandatory cutoff of 11 pm will be established for use of the lights. As noted in Table 1-1, the latest events are anticipated to end by approximately 10 pm.

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Existing Setting

The Project site lies within an existing sports use area within the eastern section of the school property. The project site is mostly surrounded by residential uses. The project site has a chain-link security fence on perimeter of the lot. The average elevation of the site is roughly 55 to 60 feet above mean sea level.

2.2 Climate and Meteorology

Meteorological trends within the San Diego area generally mild with daytime highs typically ranging between 68ºF in the winter to approximately 79ºF in the summer with August usually being the hottest month. Median temperatures range from approximately 58ºF in the winter to approximately 73ºF in the summer. The average humidity is approximately 64% in the winter and about 75% in the summer (Source: http://www.city-data.com/city/San-Diego-California.html). San Diego usually receives approximately 10.42 inches of rain per year with February usually being the wettest month (Source: http://www.weather.com /weather/wxclimatology/monthly/graph/USCA0982).

2.3 Regulatory Standards

2.3.1 Federal Standards and Definitions

The Federal Air Quality Standards were developed per the requirements of The Federal Clean Air Act, which is a federal law that was passed in 1970 and further amended in 1990. This law provides the basis for the national air pollution control effort. An important element of the act included the development of national ambient air quality standards (NAAQS) for major air pollutants.

The Clean Air Act established two types of air quality standards otherwise known as primary and secondary standards. ***Primary Standards*** set limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children and elderly. ***Secondary Standards*** set limits to protect public welfare to include the protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

1. ***Carbon Monoxide (CO):*** *is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. Carbon monoxide usually forms when there is a reduced availability of oxygen present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.*
2. ***Lead (Pb):*** *is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.*
3. ***Nitrogen Dioxide (NO_2):*** *is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO_2 is usually visible as a reddish-brown air layer over urban areas. NO_2 along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO_2 above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children.*
4. ***Particulate Matter (PM_{10} or $PM_{2.5}$):*** *is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM_{10} particles are 10 microns (µm) or less and $PM_{2.5}$ particles are 2.5 (µm) or less. These particles can contribute significantly to regional haze and reduction of visibility in California. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.*
5. ***Ozone (O_3)****: is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning. Ozone can also damage materials such as rubber, fabrics and plastics.*
6. ***Sulfur Dioxide (SO_2)****: is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining*

and metal processing. Effects from SO_2 exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. Continued exposure at elevated levels of SO_2 results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.

2.3.2 State Standards and Definitions

The State of California Air Resources Board (ARB) sets the laws and regulations for air quality on the state level. The California Ambient Air Quality Standards (CAAQS) are either the same as or more restrictive then the NAAQS and also restrict four additional contaminants. Table 2.1 on the following page identifies both the NAAQS and CAAQS. The additional contaminants as regulated by the CAAQS are defined below:

1. ***Visibility Reducing Particles****: Particles in the Air that obstruct the visibility.*
2. ***Sulfates****: are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.*
3. ***Hydrogen Sulfide (H_2S)****: is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. H_2S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. Usually, H_2S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Brief exposures to high concentrations of hydrogen sulfide (greater than 500 ppm) can cause a loss of consciousness and possibly death.*
4. ***Vinyl Chloride****: also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).*

Table 2.1: Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	**Average Time**	**California Standards[1]**		**Federal Standards[2]**		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m3)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m3)		0.075 ppm (147 µg/m3)		
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m3	Gravimetric or Beta Attenuation	150 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m3		-		
Fine Particulate Matter PM2.5	24 Hour	No Separate State Standard		35 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m3	Gravimetric or Beta Attenuation	15 µg/m3		
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m3)	-	Non-Dispersive Infrared Photometry
	1 hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m3)		-	-	-
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m3)[8]	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m3)		0.100 ppm[8] (188/ µg/m3)	-	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.30 ppm (for Certain Areas)	-	Ultraviolet Flourescence; Spectrophotometry (Pararoosaniline Method)[9]
	24 Hour	0.04 ppm (105 µg/m3)		0.14 ppm (for Certain Areas) (See Footnote 9)	-	
	3 Hour	-		-	0.5 ppm (1300 µg/m3)	
	1 Hour	0.25 ppm (655 µg/m3)		75 ppb (196 µg/m3)	-	
Lead[10]	30 Day Average	1.5 µg/m3	Atomic Absorption	-		-
	Calendar Quarter	-		1.5 µg/m3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average	-		0.15 µg/m3		
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07 -30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape				
Sulfates	24 Hour	25 µg/m3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 µg/m3)	Gas Chromatography			

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing articles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
9. 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. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour 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.
10. The ARB 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.
11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
12. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board (6/17/12)

2.3.3 Regional Standards

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as "non-attainment areas" for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the $PM_{2.5}$ standard. The State therefore created the California State Implementation Plan (SIP), which is designed to provide control measures needed for California Air basis to attain ambient air quality standards.

The San Diego Air Pollution Control District (SDAPCD) is the government agency which regulates sources of air pollution within the City of San Diego. Therefore, the SDAPCD developed a Regional Air Quality Strategy (RAQS) to provide control measures to try to achieve attainment status. Currently, San Diego is in "non-attainment" status for federal O_3 and the State PM_{10} and $PM_{2.5}$ however, an attainment plan is only available of O_3. The RAQS was adopted in 1992 and has been updated as recently as 2009 which was the latest update incorporating minor changes to the prior 2004 update.

The RAQS is largely based on population predictions by the San Diego Association of Governments (SANDAG). Projects that produce less growth that predicted by SANDAG would generally conform to the RAQS and projects create more growth that projected by SANDAG may create a significant impact assuming the project either produces unmitagble emission generation in excess of the regional standards. Also the project would be considered a significant impact if the project produces cumulative impacts.

The 2009 update mostly clarifies and enhances emission reductions by implementing new VOC and NOX reduction measures. The criteria pollutant standards are generally attained when each monitor within the region has had no exceedances during the previous three calendar years. A complete listing of the current attainment status with respect to both federal and state nonattainment status by pollutants for San Diego County is shown in Table 2.2 on the following page.

Table 2.2: San Diego County Air Basin Attainment Status by Pollutant

San Diego County Air Basin Attainment Status by Pollutant			
Pollutant	**Average Time**	**California Standards**	**Federal Standards**
Ozone (O_3)	1 Hour	Non-attainment	No Federal Standard
	8 Hour		Basic Non-attainment
Respirable Particulate Matter (PM10)	24 Hour	Non-attainment	Unclassified[1]
	Annual Arithmetic Mean	No State Standard	Unclassified[2]
Fine Particulate Matter PM2.5	24 Hour	No State Standard	Attainment
	Annual Arithmetic Mean	Non-attainment	Attainment
Carbon Monoxide (CO)	8 hour	Attainment	Maintenance Area[3]
	1 hour		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	No State Standard	Attainment
	1 Hour	Attainment	No Federal Standard
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	No State Standard	Attainment
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	No Federal Standard
Lead	30 Day Average	Attainment	No Federal Standard
	Calendar Quarter	No State Standard	Attainment
Visibility Reducing Particles	8 Hour (10AM to 6PM, PST)	Unclassified	No Federal Standard
Sulfates	24 Hour	Attainment	No Federal Standard
Hydrogen Sulfide	1 Hour	Unclassified	No Federal Standard

1. Data reflects status as of March 19, 2009.

2. Unclassified; indicates data are not sufficient for determining attainment or nonattainment.

3. Maintenance Area (defined by U.S. Department of Transportation) is any geographic region of the United States previously designated nonattainment pursuant to the CAA Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended.

2.4 California Environmental Quality Act (CEQA) Significance Thresholds

The California Environmental Quality Act has provided a checklist to identify the significance of air quality impacts. These guidelines are found in Appendix G of the CEQA guidelines and are as follows:

AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:

A: Conflict with or obstruct implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP)?

B: Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation?

C: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard (PM10, PM2.5 or exceed quantitative thresholds for O3 precursors, oxides of nitrogen [NOX] and Volatile Organic Compounds [VOCs])?

D: Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations?

E: Create objectionable odors affecting a substantial number of people?

2.5 SDAPCD Rule 20.2 – Air Quality Impact Assessment Screening Thresholds

The SDAPCD has established thresholds in Rule 20.2 for new or modified stationary sources which this report follows. These screening criteria can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA. Also, since SDAPCD does not have AQI threshold for Volatile Organic Compounds (VOCs), it is acceptable to use the Coachella Valley VOC threshold from South Coast Air Quality Management District. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards. These screening thresholds for construction and daily operations are shown in Table 2.3 below.

Table 2.3: Screening Threshold for Criteria Pollutants

Pollutant	Total Emissions (Pounds per Day)
Construction Emissions	
Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)	100 and 55
Nitrogen Oxide (NO_x)	250
Sulfur Oxide (SO_x)	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75
Operational Emissions	
Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)	100 and 55
Nitrogen Oxide (NO_x)	250
Sulfur Oxide (SO_x)	250
Carbon Monoxide (CO)	550
Lead and Lead Compounds	3.2
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75

Non Criteria pollutants such as Hazardous Air Pollutants (HAPs) or Toxic Air Contaminants (TACs) are also regulated by the SDAPCD. Rule 1200 (Toxic Air Contaminants - New Source Review) adopted on June 12, 1996, requires evaluation of potential health risks for any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminants. The rule requires that projects that propose to increase cancer risk to between 1 and 10 in one million need to implement toxics best available control technology (T-BACT) or impose the most effective emission limitation, emission control device or control technique to reduce the cancer risk. At no time shall the project increase the cancer risk to over 10 in one million. Projects creating cancer risks less than one in one million are not required to implement T-BACT technology.

The U.S. Environmental Protection Agency (U.S. EPA) uses the term Volatile Organic Compounds (**VOC**) and the California Air Resources Board's (CARB's) Emission Inventory Branch (EIB) uses the term Reactive Organic Gases (**ROG**) to essentially define the same thing. There are minor deviations between compounds that define each term however for purposes of this study we will assume they are essentially the same due to the fact SCAQMD interchanges these words and because URBEMIS2007 directly calculates ROG in place of VOC. The URBEMIS modeling is provided as ***Attachment A*** at the end of this report.

2.6 Local Air Quality

Criteria pollutants are measured continuously throughout the San Diego Air Basin. This data is used to track ambient air quality patterns throughout the County. As mentioned earlier, this data is also used to determine attainment status when compared to the NAAQS and CAAQS.

The SDAPCD is responsible for monitoring and reporting monitoring data. The District operates 10 monitoring sites, which collect data on criteria pollutants. Four additional sites collect meteorological data which is used by the District to assist with pollutant forecasting, data analysis and characterization of pollutant transport. Figure 2-A below shows the relative locations of the monitoring sites.

SDAPCD publishes air quality data for all of the monitoring stations within the San Diego basin (Source: http://www.arb.ca.gov/adam/topfour/topfourdisplay.php). The proposed development project is closest to the San Diego Beardsley Monitoring station which is located approximately 5.6 miles from the Project site. Table 2.4 on the following page identifies the criteria pollutants monitored at the aforementioned station.

Figure 2-A: Ambient Air Quality Monitoring Stations within SDAB – CARB

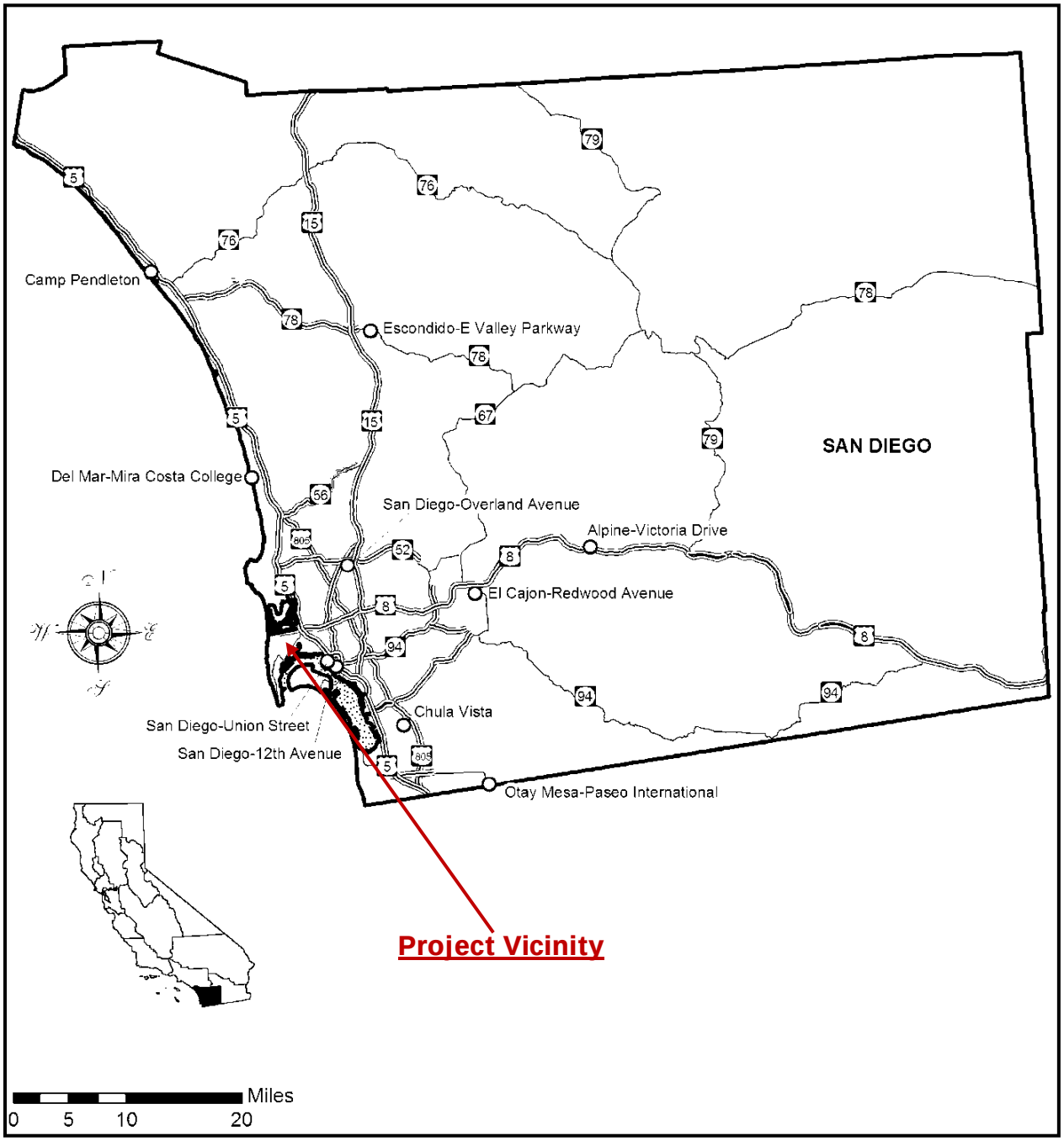


Table 2.4: Three-Year Ambient Air Quality Summary near the Project Site

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2010	2011	2012
O_3 (ppm)	San Diego-Beardsley	1 Hour	0.09 ppm	-	0.078	0.082	0.071
	San Diego-Beardsley	8 Hour	0.070 ppm	0.075 ppm	0.066	0.061	0.058
PM_{10} (µg/m3)	San Diego-Beardsley	24 Hour	50 µg/m3	150 µg/m3	40	48	45
	San Diego-Beardsley	Annual Arithmetic Mean	20 µg/m3	-	23.4	24.0	22.2
$PM_{2.5}$ (µg/m3)	San Diego-Beardsley	24 Hour	-	35 µg/m3	29.7	34.7	39.8
	San Diego-Beardsley	Annual Arithmetic Mean	12 µg/m3	15 µg/m3	12.0	11.0	10.9
NO_2 (ppm)	San Diego-Beardsley	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.015	0.014	-
	San Diego-Beardsley	1 Hour	0.18 ppm	-	0.077	0.067	0.062
CO (ppm)	San Diego-Beardsley	8 Hour	9 ppm	9 ppm	2.17	2.44	1.81

3.0 METHODOLOGY

3.1 Construction Emissions Calculations

Air quality impacts related to construction will be calculated using the latest URBEMIS2007 air quality model, which was developed by the California Air Resources Board (CARB). URBEMIS2007 has been approved by SDAPCD and the City of San Diego for construction emission calculations. URBEMIS incorporates emission factors from the EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions.

Cancer Risk will be determined for Diesel Particulate Matter (DPM) at the point of maximum exposure. The SCREEN3 dispersion model can be used to determine the 1-hour concentration for air pollutants at any location near the pollutant generator. Additionally, the model will predict the maximum exposure distance and concentration. Ldn Consulting utilized the worst case exhaust emissions generated from the Project from construction equipment as calculated within the URBEMIS2007 model. The SCREEN3 modeling is provided as ***Attachment B*** at the end of this report. The worst case cancer risk if exposed to a DPM dose for 70 years is defined as:

$$CR_{DPM} = C_{DPM} \times URF_{DPM}$$

CRDPM = CDPM x URFDPM

Where, CRDPM = Cancer risk from diesel particulate matter (probability on an individual developing Cancer

CDPM = Annual average DPM concentration in µg/m3 (SCREEN3 predicts a 1-hr concentration and is corrected to an annual average by multiplying the 1-hr average by 0.08 (Source: U.S. EPA, 1992; ARB, 1994)

URFDPM = The inhalation unit risk factor for diesel particulate was established by ARB as 300 in one million per continuous exposure of 1 µg/m3 of DPM over a 70-year period.

(Source: Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling emissions for CEQA Air Quality Analysis (August 2003))

3.2 Construction Assumptions

The project engineer expects all the grading to be complete in about six weeks. The first four weeks of grading will be considered "Mass Grading" and would include all grubbing of the site where all grass and old irrigation pipes will be removed and disposed of offsite. During the last two weeks of grading the contractor will finish grade the entire site to achieve optimal grades necessary for proper drainage. The grading operation would require no more than 20,000 CY of earthwork. Out of that quantity, about 7,000 CY would consist of construction debris and excess soil which will be exported offsite.

Also, during the last two weeks of grading, the contractor will use small tractors and trenchers to construct underground utility trenches for irrigation and utility lines.

After the site is prepared, the landscaping and construction of the sports facilities, concessions/restroom facility and the two story classrooms would begin. Construction would be expected to last up to 10 weeks. Altogether, if the project begins in February 2017, the construction would be completed roughly early February 2018.

During the grading period, roughly 7,000 CY of construction debris will be hauled offsite. It's expected that up to 500 round trips would be necessary using 14 CY trucks within a 20 mile radius during the earthwork period. Table 3.1 below shows the expected timeframes and construction equipment which would be necessary for the project.

The schedule proposed would be considered a "fastest possible" construction duration for the entire project including classroom completion. Since emission thresholds are based on daily levels, this would be considered worst-case under CEQA. Also, for purposes of this analysis all material haulage would occur during the fine grading phase.

Table 3.1: Expected Construction Equipment

Equipment Identification	Proposed Dates Start - Finish	Quantity	Hours per day
Mass Grading (Including Construction Debris Export)	2/1/2017 – 2/28/2017		
Tractors/Loaders/Backhoes		2	8
Graders		1	8
Water Trucks		1	8
Fine Grading	3/1/2017 – 3/15/2017		
Tractors/Loaders/Backhoes		2	8
Graders		1	8
Water Trucks		1	8
This equipment list is based upon equipment inventory within URBEMIS2007. The quantity and types are based upon assumptions from projects of similar size and scope in the City of San Diego.			

Table 3.1 Cont.: Expected Construction Equipment

Equipment Identification	Proposed Dates Start - Finish	Quantity	Hours per day
Trenching	3/1/2017 – 3/15/2017		
Trenchers		3	8
Tractors/Loaders/Backhoes		2	8
Building Construction	3/16/2017 – 2/1/2018		
Welders		3	8
Forklifts		2	8
Cranes		1	8
Generator Sets		1	8
Tractors/Loaders/Backhoes		1	8
This equipment list is based upon equipment inventory within URBEMIS2007. The quantity and types are based upon assumptions from projects of similar size and scope in the City of San Diego.			

3.3 Operational Emissions

Operational Emissions from daily trips and area sources will be calculated utilizing the URBEMIS 2007 model. Emissions from both daily trips and area sources will be considered additive and combined to show total Project related emission outputs. URBEMIS 2007 utilizes the EMFAC2007 model for daily trips, which calculates emission rates from all motor vehicles, such as passenger cars to heavy-duty trucks, operating on highways, freeways and local roads in California and reflects CARB's current understanding of how vehicles travel and how much they pollute. Table 3.2 below shows the Project trip breakdown.

Table 3.2: Proposed Project Trip Breakdown

Vehicle Description	Project Percentage
Light Auto	47.8
Light Truck < 3,750 lbs	10.9
Light Truck 3,751 – 5,750 lbs	22.1
Medium Truck 5,751 – 8,500 lbs	9.9
Light-Heavy Truck 8,501 – 10,000 lbs	1.8
Light-Heavy Truck 10,001 – 14,000 lbs	0.7
Medium-Heavy Truck 14,001 – 33,000 lbs	1.0
Heavy-Heavy Truck 33,001 – 60,000 lbs	0.9
Other Bus	0.1
Urban Bus	0.1
Motorcycle	3.5
School Bus	0.1
Motor Home	1.1

In the EMFAC model, the emission rates are multiplied with vehicle activity data provided by the regional transportation agencies to calculate the statewide or regional emission inventories. An emission inventory is the emission rate (e.g., grams per pollutant emitted over a mile) and vehicle activity (e.g., miles driven per day). Area sources would be generated for landscaping equipment which will require the burning of fuels to operate. No additional areas sources would be expected.

It was estimated that there will be 365 daily trips. (Source: Correia Middle School Sports Complex San Diego Unified School District, Draft Transportation Impact Study – LOS Engineering – November, 2014). The worst-case traffic inputs were utilized within the URBEMIS 2007 analysis as significance thresholds are mainly governed within a daily timeframe. The model also estimates emission predictions for ROG, NOx, CO, SO2, PM10 and PM2.5 for area source assumptions to include landscaping and grass cutting for the fields.

3.4 Odor Impacts

Potential onsite odor generators would include short term construction odors from activities such as grading or roofing. The construction odors would be considered short term and would not be considered an impact. Given this the project will not have a potential to create offensive odors and would therefore not be considered an impact under CEQA.

3.5 Micro Scale Operational Emissions

Air pollutant emissions related to project traffic have the potential to create new, or worsen existing localized air quality levels with respect to carbon monoxide (CO) should poor or failing LOS conditions exist. These increased carbon monoxide "Hot Spots" are determined through the utilization of the ITS Transportation Project-Level Carbon Monoxide Protocol (Caltrans 1998) as well as the City of San Diego.

In the event the proposed project traffic adds vehicular trips to either an intersection that operates at LOS E or F or any intersection where the project trips re-classifies the intersection level of service to LOS E or F and when peak-hour trips (PHT) for the whole intersection exceed 3,000 the Project must quantify CO levels. The proposed project would not generate enough trips to require an intersection traffic analysis so it is assumed there will be no LOS impacts with respect to the proposed project. Given this no existing or cumulative hot spots are expected.

4.0 FINDINGS

4.1 Construction Findings

The construction operations of the proposed project are identified in Table 4.1 below. Based on the results, no impact would be expected. The proposed grading or earthwork operations are relatively short and will be completed in about five weeks.

Table 4.1: Expected Construction Emissions Summary

Year	ROG	NO_x	CO	SO_2	PM_{10} (Dust)	PM_{10} (Exhaust)	PM_{10} (Total)	$PM_{2.5}$ (Dust)	$PM_{2.5}$ (Exhaust)	$PM_{2.5}$ (Total)
2017 (lb/day) Unmitigated	3.89	25.07	22.57	0.02	92.03	1.71	93.67	19.23	1.57	20.78
2018 (lb/day) Unmitigated	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58
Significance Threshold (lb/day)	75	250	550	250	-	-	100	-	-	55
SDAPCD Impact?	**No**	**No**	**No**	**No**	**-**	**-**	**No**	**-**	**-**	**No**

4.2 Health Risk

Based upon this air quality modeling, we find that worst-case PM_{10} from exhaust ranges between 0.81 and 1.71 pounds per day but has an average rate of 0.7472 lbs per construction day (8-hours) or 0.01175 grams per second DPM during the construction day which would be expected to be distributed over the disturbed project area of 7.3 acres. Converting pounds (lbs) per day to grams per second is shown below:

$$\frac{0.7472\frac{lb}{day} * 453\frac{grams}{lb}}{28{,}800\frac{\text{seconds}}{Constructionday}} = 0.01175\frac{grams}{\text{second}}$$

The average emission rate over the grading area is 3.98×10^{-7} g/m^2/s, which was calculated as follows:

$$\frac{0.01175\frac{grams}{\text{second}}}{7.3acres * 4{,}046\frac{meters^2}{acre}} = 3.98 * 10^{-7}\frac{\frac{grams}{meters^2}}{\text{second}}$$

Utilizing the SCREEN3 dispersion model, we find that the peak maximum 1-hr concentration is 8.44 µg/m3 during the worst-case construction period. Converting the peak 1-hr concentration to an annual concentration reduces the concentration to 0.6752 µg/m3. Therefore, utilizing the risk equation identified above and calculating the cancer risk over a 70 year continuous dose would be:

$$CR_{DPM} \text{ -70yr dose} = 0.0003 \times 0.6752 = 0.000203$$

Based on these calculations, The Project is expected to generate maximum DPM during grading of the project, however risk calculations are based on the entire duration of workdays which is expected to be no more than 238 construction days over a 70 year period. Converting the 238 construction days into 24 hour days or (238 x 8 ÷24) would yield 79.33-24 hour days over 70 years. There are 25,550 +/- days within a 70 year period so it would be expected that the CRDPM would be 79.33 days/25,550 days or 0.00310 times the CRDPM. If one million people were exposed to the maximum DPM for the duration of grading at 129 meters from the project site, the estimated increased cancer risk could be:

$$0.000203 \times .00310 \times 1{,}000{,}000 = 0.63 \text{ individuals per million}$$

The numerical number of individuals exposed to DPM of this concentration from the project would be less than one in one million exposed. Therefore, because the project increases the risk to less than one person per million, no health risk impacts are expected.

4.3 Operational Findings

Based on the Project's traffic study the proposed Project could add as many as 404 daily weekday trips and up to 1,430 ADT during a typical Saturday. The URBEMIS2007 Model was run for both the winter and summer scenario and for weekday and Saturday scenarios. The modeling assumes an average winter temperature of 50ºF and an average summer temperature of 70ºF. Average trip distances and mix ratios assumed within URBEMIS2007 would be considered worst case. The expected daily pollutant generation can be calculated utilizing the product of the average daily miles traveled and the expected emissions inventory calculated by EMFAC2007. URBEMIS2007 performs this calculation and is utilized for this report. The daily pollutants calculated for weekday and weekend ADTs are shown in Table 4.2 and 4.3 below.

Table 4.2: Expected Daily Pollutant Generation (Weekday)

	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer Scenario						
Area Source Emission Estimates (Lb/Day)	0.28	0.09	3.13	0.00	0.01	0.01
Operational Vehicle Emissions (Lb/Day)	1.52	1.98	18.78	0.02	5.22	1.01
Total (Lb/Day)	1.80	2.07	21.91	0.02	5.23	1.02
SCAQMD Thresholds	75	250	550	250	100	55
Significant?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Scenario						
Area Source Emission Estimates (Lb/Day)	0.03	0.05	0.04	0.00	0.00	0.00
Operational Vehicle Emissions (Lb/Day)	1.74	2.89	19.98	0.02	5.22	1.01
Total (Lb/Day)	1.77	2.94	20.02	0.02	5.22	1.01
SCAQMD Thresholds	75	250	550	250	100	55
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Daily pollutant generation assumes trip distances within URBEMIS 2007
Area sources would be minimal during the winter

Table 4.3: Expected Daily Pollutant Generation (Weekend Saturday)

	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer Scenario						
Area Source Emission Estimates (Lb/Day)	0.28	0.09	3.13	0.00	0.01	0.01
Operational Vehicle Emissions (Lb/Day)	5.13	6.98	66.03	0.10	18.40	3.54
Total (Lb/Day)	5.41	7.07	69.16	0.10	18.41	3.55
SCAQMD Thresholds	75	250	550	250	100	55
Significant?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Scenario						
Area Source Emission Estimates (Lb/Day)	0.03	0.05	0.04	0.00	0.00	0.00
Operational Vehicle Emissions (Lb/Day)	6.12	10.19	70.36	0.09	18.40	3.54
Total (Lb/Day)	6.15	10.24	70.40	0.09	18.40	3.54
SCAQMD Thresholds	75	250	550	250	100	55
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Daily pollutant generation assumes trip distances within URBEMIS 2007
Area sources would be minimal during the winter

Based upon these calculations, the proposed project will not exceed SDAPCD significance thresholds. Based on the fact that the proposed project does not create direct impacts and given the project is not modifying the site zoning, the project would be consistent with the RAQS. Therefore, no significant cumulative impacts would be expected either.

4.4 Odor Impact Findings

Odor impacts from construction would be considered short term events and would not be considered an impact.

4.5 Conclusion of Findings

Based upon our analysis, no significant fugitive dust or criteria pollutant impacts are expected. Given this, no construction mitigation measures are required beyond standard Grading BMPs which would include wetting the site. Likewise, no cumulative construction impacts are expected. No significant direct or operational area emissions are expected from the proposed project. Also, since the project would not modify zoning and the use would be consistent with existing land use designations the project would be compliant with the RAQS. Furthermore, the proposed project would not create micro-scale carbon monoxide impacts or significant operational odors. Therefore, no additional mitigation measures are required for the project to comply with CEQA.

5.0 CERTIFICATIONS

The contents of this report represent an accurate depiction of the air quality environment and impacts surrounding the proposed project's construction and operations. The report was prepared utilizing the latest emission rates and reduction methodologies.

DRAFT

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Date December 1, 2014

ATTACHMENT A

URBEMIS 2007

12/1/2014 8:03:03 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Googledrive\Correia Middle School\11-30-14\Correia Sports Complex Weekday.urb924

Project Name: Correia Sports Field Project

Project Location: California State-wide

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

12/1/2014 8:03:03 PM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2017 TOTALS (lbs/day unmitigated)	3.89	25.07	22.57	0.02	92.03	1.71	93.67	19.23	1.57	20.78	3,959.11
2018 TOTALS (lbs/day unmitigated)	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.28	0.09	3.13	0.00	0.01	0.01	63.62

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.52	1.98	18.78	0.02	5.22	1.01	3,037.76

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.80	2.07	21.91	0.02	5.23	1.02	3,101.38

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

12/1/2014 8:03:03 PM

Time Slice 2/1/2017-2/28/2017 Active Days: 20	2.10	16.84	12.34	**0.02**	**92.03**	0.81	92.83	**19.23**	0.74	19.97	**3,959.11**
Mass Grading 02/01/2017-02/28/2017	2.10	16.84	12.34	0.02	92.03	0.81	92.83	19.23	0.74	19.97	3,959.11
Mass Grading Dust	0.00	0.00	0.00	0.00	91.95	0.00	91.95	19.20	0.00	19.20	0.00
Mass Grading Off Road Diesel	1.57	10.62	9.34	0.00	0.00	0.58	0.58	0.00	0.53	0.53	1,843.75
Mass Grading On Road Diesel	0.51	6.18	2.37	0.02	0.07	0.23	0.30	0.02	0.21	0.23	2,013.01
Mass Grading Worker Trips	0.02	0.03	0.64	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.35
Time Slice 3/1/2017-3/15/2017 Active Days: 11	**3.89**	**25.07**	**22.57**	0.00	91.96	**1.71**	**93.67**	19.21	**1.57**	**20.78**	3,794.54
Fine Grading 03/01/2017-03/15/2017	1.59	10.66	9.98	0.00	91.95	0.58	92.54	19.20	0.54	19.74	1,946.10
Fine Grading Dust	0.00	0.00	0.00	0.00	91.95	0.00	91.95	19.20	0.00	19.20	0.00
Fine Grading Off Road Diesel	1.57	10.62	9.34	0.00	0.00	0.58	0.58	0.00	0.53	0.53	1,843.75
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.03	0.64	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.35
Trenching 03/01/2017-03/15/2017	2.30	14.41	12.60	0.00	0.01	1.12	1.13	0.00	1.03	1.04	1,848.44
Trenching Off Road Diesel	2.28	14.37	11.80	0.00	0.00	1.12	1.12	0.00	1.03	1.03	1,720.50
Trenching Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.94
Time Slice 3/16/2017-12/29/2017 Active Days: 207	2.41	12.16	18.47	0.01	0.07	0.69	0.76	0.02	0.63	0.66	3,223.06
Building 03/16/2017-02/01/2018	2.41	12.16	18.47	0.01	0.07	0.69	0.76	0.02	0.63	0.66	3,223.06
Building Off Road Diesel	2.16	11.72	10.04	0.00	0.00	0.65	0.65	0.00	0.60	0.60	1,871.46
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08
Building Worker Trips	0.25	0.43	8.41	0.01	0.07	0.04	0.10	0.02	0.03	0.05	1,343.53

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Time Slice 1/1/2018-2/1/2018 Active Days: 24	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24
Building 03/16/2017-02/01/2018	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24
Building Off Road Diesel	1.95	10.82	9.81	0.00	0.00	0.57	0.57	0.00	0.52	0.52	1,871.46
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08
Building Worker Trips	0.22	0.39	7.79	0.01	0.07	0.04	0.10	0.02	0.03	0.05	1,343.70

Phase Assumptions

Phase: Fine Grading 3/1/2017 - 3/15/2017 - Finish Grading the site

Total Acres Disturbed: 7.3

Maximum Daily Acreage Disturbed: 1.82

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 625 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/1/2017 - 2/28/2017 - Grubbing and removing pipes and debris

Total Acres Disturbed: 7.3

Maximum Daily Acreage Disturbed: 1.82

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 625 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 500

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Trenching 3/1/2017 - 3/15/2017 - Trenching for irrigation and utilities

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Building Construction 3/16/2017 - 2/1/2018 - concessions and restrooms

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.05	0.04	0.00	0.00	0.00	58.00
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	0.03						
TOTALS (lbs/day, unmitigated)	0.28	0.09	3.13	0.00	0.01	0.01	63.62

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Junior high school	0.28	0.33	3.17	0.00	0.87	0.17	507.53
City park	1.24	1.65	15.61	0.02	4.35	0.84	2,530.23
TOTALS (lbs/day, unmitigated)	1.52	1.98	18.78	0.02	5.22	1.01	3,037.76

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2018 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Junior high school		13.00	1000 sq ft	5.00	65.00	505.70
City park		48.43	acres	7.00	339.01	2,528.17
					404.01	3,033.87

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.3	0.0	99.8	0.2
Light Truck < 3750 lbs	10.8	0.0	97.2	2.8
Light Truck 3751-5750 lbs	22.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	9.7	0.0	100.0	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.6	41.7	58.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Junior high school				20.0	10.0	70.0
City park				5.0	2.5	92.5

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Googledrive\Correia Middle School\11-30-14\Correia Sports Complex Weekend.urb924

Project Name: Correia Sports Field Project

Project Location: California State-wide

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2017 TOTALS (lbs/day unmitigated)	3.89	25.07	22.57	0.02	92.01	1.71	93.67	19.22	1.57	20.78	3,794.54
2018 TOTALS (lbs/day unmitigated)	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.28	0.09	3.13	0.00	0.01	0.01	63.62

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	5.13	6.98	66.03	0.10	18.40	3.54	10,695.33

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	5.41	7.07	69.16	0.10	18.41	3.55	10,758.95

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 2/1/2017-2/28/2017 Active Days: 24	2.02	15.81	11.95	**0.02**	**92.01**	0.77	92.78	**19.22**	0.71	19.93	3,623.60
Mass Grading 02/01/2017-02/28/2017	2.02	15.81	11.95	0.02	92.01	0.77	92.78	19.22	0.71	19.93	3,623.60
Mass Grading Dust	0.00	0.00	0.00	0.00	91.95	0.00	91.95	19.20	0.00	19.20	0.00
Mass Grading Off Road Diesel	1.57	10.62	9.34	0.00	0.00	0.58	0.58	0.00	0.53	0.53	1,843.75
Mass Grading On Road Diesel	0.43	5.15	1.97	0.02	0.06	0.19	0.25	0.02	0.17	0.19	1,677.50
Mass Grading Worker Trips	0.02	0.03	0.64	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.35
Time Slice 3/1/2017-3/15/2017 Active Days: 13	**3.89**	**25.07**	**22.57**	0.00	91.96	**1.71**	**93.67**	19.21	**1.57**	**20.78**	**3,794.54**
Fine Grading 03/01/2017-03/15/2017	1.59	10.66	9.98	0.00	91.95	0.58	92.54	19.20	0.54	19.74	1,946.10
Fine Grading Dust	0.00	0.00	0.00	0.00	91.95	0.00	91.95	19.20	0.00	19.20	0.00
Fine Grading Off Road Diesel	1.57	10.62	9.34	0.00	0.00	0.58	0.58	0.00	0.53	0.53	1,843.75
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.03	0.64	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.35
Trenching 03/01/2017-03/15/2017	2.30	14.41	12.60	0.00	0.01	1.12	1.13	0.00	1.03	1.04	1,848.44
Trenching Off Road Diesel	2.28	14.37	11.80	0.00	0.00	1.12	1.12	0.00	1.03	1.03	1,720.50
Trenching Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.94
Time Slice 3/16/2017-12/30/2017 Active Days: 249	2.41	12.16	18.47	0.01	0.07	0.69	0.76	0.02	0.63	0.66	3,223.06
Building 03/16/2017-02/01/2018	2.41	12.16	18.47	0.01	0.07	0.69	0.76	0.02	0.63	0.66	3,223.06
Building Off Road Diesel	2.16	11.72	10.04	0.00	0.00	0.65	0.65	0.00	0.60	0.60	1,871.46
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08
Building Worker Trips	0.25	0.43	8.41	0.01	0.07	0.04	0.10	0.02	0.03	0.05	1,343.53

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Time Slice 1/1/2018-2/1/2018 Active Days: 28	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24
Building 03/16/2017-02/01/2018	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24
Building Off Road Diesel	1.95	10.82	9.81	0.00	0.00	0.57	0.57	0.00	0.52	0.52	1,871.46
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08
Building Worker Trips	0.22	0.39	7.79	0.01	0.07	0.04	0.10	0.02	0.03	0.05	1,343.70

Phase Assumptions

Phase: Fine Grading 3/1/2017 - 3/15/2017 - Finish Grading the site

Total Acres Disturbed: 7.3

Maximum Daily Acreage Disturbed: 1.82

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 625 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/1/2017 - 2/28/2017 - Grubbing and removing pipes and debris

Total Acres Disturbed: 7.3

Maximum Daily Acreage Disturbed: 1.82

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 625 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 416.67

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Trenching 3/1/2017 - 3/15/2017 - Trenching for irrigation and utilities

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Building Construction 3/16/2017 - 2/1/2018 - concessions and restrooms

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.05	0.04	0.00	0.00	0.00	58.00
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	0.03						
TOTALS (lbs/day, unmitigated)	0.28	0.09	3.13	0.00	0.01	0.01	63.62

Area Source Changes to Defaults

12/1/2014 8:23:48 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Junior high school	0.28	0.33	3.17	0.00	0.87	0.17	507.53
City park	4.85	6.65	62.86	0.10	17.53	3.37	10,187.80
TOTALS (lbs/day, unmitigated)	5.13	6.98	66.03	0.10	18.40	3.54	10,695.33

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2018 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Junior high school		13.00	1000 sq ft	5.00	65.00	505.70
City park		195.00	acres	7.00	1,365.00	10,179.49
					1,430.00	10,685.19

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.3	0.0	99.8	0.2
Light Truck < 3750 lbs	10.8	0.0	97.2	2.8
Light Truck 3751-5750 lbs	22.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	9.7	0.0	100.0	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.6	41.7	58.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Junior high school				20.0	10.0	70.0
City park				5.0	2.5	92.5

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Googledrive\Correia Middle School\11-30-14\Correia Sports Complex Weekday.urb924

Project Name: Correia Sports Field Project

Project Location: California State-wide

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

12/1/2014 8:02:57 PM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2017 TOTALS (lbs/day unmitigated)	3.89	25.07	22.57	0.02	92.03	1.71	93.67	19.23	1.57	20.78	3,959.11
2018 TOTALS (lbs/day unmitigated)	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.03	0.05	0.04	0.00	0.00	0.00	58.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.74	2.89	19.98	0.02	5.22	1.01	2,630.45

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.77	2.94	20.02	0.02	5.22	1.01	2,688.45

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

12/1/2014 8:02:57 PM

Time Slice 2/1/2017-2/28/2017 Active Days: 20	2.10	16.84	12.34	**0.02**	**92.03**	0.81	92.83	**19.23**	0.74	19.97	**3,959.11**
Mass Grading 02/01/2017-02/28/2017	2.10	16.84	12.34	0.02	92.03	0.81	92.83	19.23	0.74	19.97	3,959.11
Mass Grading Dust	0.00	0.00	0.00	0.00	91.95	0.00	91.95	19.20	0.00	19.20	0.00
Mass Grading Off Road Diesel	1.57	10.62	9.34	0.00	0.00	0.58	0.58	0.00	0.53	0.53	1,843.75
Mass Grading On Road Diesel	0.51	6.18	2.37	0.02	0.07	0.23	0.30	0.02	0.21	0.23	2,013.01
Mass Grading Worker Trips	0.02	0.03	0.64	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.35
Time Slice 3/1/2017-3/15/2017 Active Days: 11	**3.89**	**25.07**	**22.57**	0.00	91.96	**1.71**	**93.67**	19.21	**1.57**	**20.78**	3,794.54
Fine Grading 03/01/2017-03/15/2017	1.59	10.66	9.98	0.00	91.95	0.58	92.54	19.20	0.54	19.74	1,946.10
Fine Grading Dust	0.00	0.00	0.00	0.00	91.95	0.00	91.95	19.20	0.00	19.20	0.00
Fine Grading Off Road Diesel	1.57	10.62	9.34	0.00	0.00	0.58	0.58	0.00	0.53	0.53	1,843.75
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.03	0.64	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.35
Trenching 03/01/2017-03/15/2017	2.30	14.41	12.60	0.00	0.01	1.12	1.13	0.00	1.03	1.04	1,848.44
Trenching Off Road Diesel	2.28	14.37	11.80	0.00	0.00	1.12	1.12	0.00	1.03	1.03	1,720.50
Trenching Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.94
Time Slice 3/16/2017-12/29/2017 Active Days: 207	2.41	12.16	18.47	0.01	0.07	0.69	0.76	0.02	0.63	0.66	3,223.06
Building 03/16/2017-02/01/2018	2.41	12.16	18.47	0.01	0.07	0.69	0.76	0.02	0.63	0.66	3,223.06
Building Off Road Diesel	2.16	11.72	10.04	0.00	0.00	0.65	0.65	0.00	0.60	0.60	1,871.46
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08
Building Worker Trips	0.25	0.43	8.41	0.01	0.07	0.04	0.10	0.02	0.03	0.05	1,343.53

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Time Slice 1/1/2018-2/1/2018 Active Days: 24	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24
Building 03/16/2017-02/01/2018	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24
Building Off Road Diesel	1.95	10.82	9.81	0.00	0.00	0.57	0.57	0.00	0.52	0.52	1,871.46
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08
Building Worker Trips	0.22	0.39	7.79	0.01	0.07	0.04	0.10	0.02	0.03	0.05	1,343.70

Phase Assumptions

Phase: Fine Grading 3/1/2017 - 3/15/2017 - Finish Grading the site

Total Acres Disturbed: 7.3

Maximum Daily Acreage Disturbed: 1.82

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 625 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/1/2017 - 2/28/2017 - Grubbing and removing pipes and debris

Total Acres Disturbed: 7.3

Maximum Daily Acreage Disturbed: 1.82

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 625 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 500

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Trenching 3/1/2017 - 3/15/2017 - Trenching for irrigation and utilities

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Building Construction 3/16/2017 - 2/1/2018 - concessions and restrooms

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.05	0.04	0.00	0.00	0.00	58.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.03						
TOTALS (lbs/day, unmitigated)	0.03	0.05	0.04	0.00	0.00	0.00	58.00

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Junior high school	0.29	0.48	3.33	0.00	0.87	0.17	439.64
City park	1.45	2.41	16.65	0.02	4.35	0.84	2,190.81
TOTALS (lbs/day, unmitigated)	1.74	2.89	19.98	0.02	5.22	1.01	2,630.45

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2018 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Junior high school		13.00	1000 sq ft	5.00	65.00	505.70
City park		48.43	acres	7.00	339.01	2,528.17
					404.01	3,033.87

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.3	0.0	99.8	0.2
Light Truck < 3750 lbs	10.8	0.0	97.2	2.8
Light Truck 3751-5750 lbs	22.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	9.7	0.0	100.0	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.6	41.7	58.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Junior high school				20.0	10.0	70.0
City park				5.0	2.5	92.5

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Googledrive\Correia Middle School\11-30-14\Correia Sports Complex Weekend.urb924

Project Name: Correia Sports Field Project

Project Location: California State-wide

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

12/1/2014 8:24:06 PM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2017 TOTALS (lbs/day unmitigated)	3.89	25.07	22.57	0.02	92.01	1.71	93.67	19.22	1.57	20.78	3,794.54
2018 TOTALS (lbs/day unmitigated)	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.03	0.05	0.04	0.00	0.00	0.00	58.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.12	10.19	70.36	0.09	18.40	3.54	9,260.79

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.15	10.24	70.40	0.09	18.40	3.54	9,318.79

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 2/1/2017-2/28/2017 Active Days: 24	2.02	15.81	11.95	**0.02**	**92.01**	0.77	92.78	**19.22**	0.71	19.93	3,623.60
Mass Grading 02/01/2017-02/28/2017	2.02	15.81	11.95	0.02	92.01	0.77	92.78	19.22	0.71	19.93	3,623.60
Mass Grading Dust	0.00	0.00	0.00	0.00	91.95	0.00	91.95	19.20	0.00	19.20	0.00
Mass Grading Off Road Diesel	1.57	10.62	9.34	0.00	0.00	0.58	0.58	0.00	0.53	0.53	1,843.75
Mass Grading On Road Diesel	0.43	5.15	1.97	0.02	0.06	0.19	0.25	0.02	0.17	0.19	1,677.50
Mass Grading Worker Trips	0.02	0.03	0.64	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.35
Time Slice 3/1/2017-3/15/2017 Active Days: 13	**3.89**	**25.07**	**22.57**	0.00	91.96	**1.71**	**93.67**	19.21	**1.57**	**20.78**	**3,794.54**
Fine Grading 03/01/2017-03/15/2017	1.59	10.66	9.98	0.00	91.95	0.58	92.54	19.20	0.54	19.74	1,946.10
Fine Grading Dust	0.00	0.00	0.00	0.00	91.95	0.00	91.95	19.20	0.00	19.20	0.00
Fine Grading Off Road Diesel	1.57	10.62	9.34	0.00	0.00	0.58	0.58	0.00	0.53	0.53	1,843.75
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.03	0.64	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.35
Trenching 03/01/2017-03/15/2017	2.30	14.41	12.60	0.00	0.01	1.12	1.13	0.00	1.03	1.04	1,848.44
Trenching Off Road Diesel	2.28	14.37	11.80	0.00	0.00	1.12	1.12	0.00	1.03	1.03	1,720.50
Trenching Worker Trips	0.02	0.04	0.80	0.00	0.01	0.00	0.01	0.00	0.00	0.01	127.94
Time Slice 3/16/2017-12/30/2017 Active Days: 249	2.41	12.16	18.47	0.01	0.07	0.69	0.76	0.02	0.63	0.66	3,223.06
Building 03/16/2017-02/01/2018	2.41	12.16	18.47	0.01	0.07	0.69	0.76	0.02	0.63	0.66	3,223.06
Building Off Road Diesel	2.16	11.72	10.04	0.00	0.00	0.65	0.65	0.00	0.60	0.60	1,871.46
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08
Building Worker Trips	0.25	0.43	8.41	0.01	0.07	0.04	0.10	0.02	0.03	0.05	1,343.53

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Time Slice 1/1/2018-2/1/2018 Active Days: 28	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24
Building 03/16/2017-02/01/2018	2.18	11.23	17.62	0.01	0.07	0.61	0.67	0.02	0.55	0.58	3,223.24
Building Off Road Diesel	1.95	10.82	9.81	0.00	0.00	0.57	0.57	0.00	0.52	0.52	1,871.46
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08
Building Worker Trips	0.22	0.39	7.79	0.01	0.07	0.04	0.10	0.02	0.03	0.05	1,343.70

Phase Assumptions

Phase: Fine Grading 3/1/2017 - 3/15/2017 - Finish Grading the site

Total Acres Disturbed: 7.3

Maximum Daily Acreage Disturbed: 1.82

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 625 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/1/2017 - 2/28/2017 - Grubbing and removing pipes and debris

Total Acres Disturbed: 7.3

Maximum Daily Acreage Disturbed: 1.82

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 625 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 416.67

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Trenching 3/1/2017 - 3/15/2017 - Trenching for irrigation and utilities

Off-Road Equipment:

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Building Construction 3/16/2017 - 2/1/2018 - concessions and restrooms

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.00	0.05	0.04	0.00	0.00	0.00	58.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.03						
TOTALS (lbs/day, unmitigated)	0.03	0.05	0.04	0.00	0.00	0.00	58.00

Area Source Changes to Defaults

12/1/2014 8:24:06 PM

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Junior high school	0.29	0.48	3.33	0.00	0.87	0.17	439.64
City park	5.83	9.71	67.03	0.09	17.53	3.37	8,821.15
TOTALS (lbs/day, unmitigated)	6.12	10.19	70.36	0.09	18.40	3.54	9,260.79

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2018 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Junior high school		13.00	1000 sq ft	5.00	65.00	505.70
City park		195.00	acres	7.00	1,365.00	10,179.49
					1,430.00	10,685.19

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	48.3	0.0	99.8	0.2
Light Truck < 3750 lbs	10.8	0.0	97.2	2.8
Light Truck 3751-5750 lbs	22.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	9.7	0.0	100.0	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	1.7	0.0	76.5	23.5
Lite-Heavy Truck 10,001-14,000 lbs	0.7	0.0	57.1	42.9
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.6	41.7	58.3	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	0.0	90.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Junior high school				20.0	10.0	70.0
City park				5.0	2.5	92.5

ATTACHMENT B

SCREEN 3 Model

12/01/14
20:15:46

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 13043 ***

Correia Middle School

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2)) =     0.398000E-06
   SOURCE HEIGHT (M)          =       3.0000
   LENGTH OF LARGER SIDE (M)  =     171.8780
   LENGTH OF SMALLER SIDE (M) =     171.8780
   RECEPTOR HEIGHT (M)        =       1.5000
   URBAN/RURAL OPTION         =        URBAN
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    10.    5.848        5     1.0    1.0 10000.0    3.00     44.
   100.    7.970        5     1.0    1.0 10000.0    3.00     45.
   200.    5.240        5     1.0    1.0 10000.0    3.00     45.
   300.    3.218        5     1.0    1.0 10000.0    3.00     45.
   400.    2.287        5     1.0    1.0 10000.0    3.00     45.
   500.    1.742        5     1.0    1.0 10000.0    3.00     45.
   600.    1.383        5     1.0    1.0 10000.0    3.00     45.
   700.    1.132        5     1.0    1.0 10000.0    3.00     45.
   800.   0.9475        5     1.0    1.0 10000.0    3.00     42.
   900.   0.8084        5     1.0    1.0 10000.0    3.00     45.
  1000.   0.7005        5     1.0    1.0 10000.0    3.00     44.
  1100.   0.6150        5     1.0    1.0 10000.0    3.00     43.
  1200.   0.5460        5     1.0    1.0 10000.0    3.00     42.
  1300.   0.4893        5     1.0    1.0 10000.0    3.00     43.
```

1400.	0.4421	5	1.0	1.0	10000.0	3.00	45.
1500.	0.4024	5	1.0	1.0	10000.0	3.00	42.
1600.	0.3686	5	1.0	1.0	10000.0	3.00	39.
1700.	0.3395	5	1.0	1.0	10000.0	3.00	37.
1800.	0.3144	5	1.0	1.0	10000.0	3.00	45.
1900.	0.2922	5	1.0	1.0	10000.0	3.00	45.
2000.	0.2728	5	1.0	1.0	10000.0	3.00	35.
2100.	0.2557	5	1.0	1.0	10000.0	3.00	36.
2200.	0.2403	5	1.0	1.0	10000.0	3.00	38.
2300.	0.2266	5	1.0	1.0	10000.0	3.00	40.
2400.	0.2142	5	1.0	1.0	10000.0	3.00	43.
2500.	0.2030	5	1.0	1.0	10000.0	3.00	44.
2600.	0.1929	5	1.0	1.0	10000.0	3.00	32.
2700.	0.1837	5	1.0	1.0	10000.0	3.00	31.
2800.	0.1753	5	1.0	1.0	10000.0	3.00	1.
2900.	0.1675	5	1.0	1.0	10000.0	3.00	1.
3000.	0.1603	5	1.0	1.0	10000.0	3.00	1.
3500.	0.1318	5	1.0	1.0	10000.0	3.00	42.
4000.	0.1115	5	1.0	1.0	10000.0	3.00	38.
4500.	0.9642E-01	5	1.0	1.0	10000.0	3.00	1.
5000.	0.8480E-01	5	1.0	1.0	10000.0	3.00	31.
5500.	0.7562E-01	5	1.0	1.0	10000.0	3.00	15.
6000.	0.6818E-01	5	1.0	1.0	10000.0	3.00	40.
6500.	0.6204E-01	5	1.0	1.0	10000.0	3.00	9.
7000.	0.5690E-01	5	1.0	1.0	10000.0	3.00	6.
7500.	0.5254E-01	5	1.0	1.0	10000.0	3.00	2.
8000.	0.4879E-01	5	1.0	1.0	10000.0	3.00	1.
8500.	0.4551E-01	5	1.0	1.0	10000.0	3.00	2.
9000.	0.4263E-01	5	1.0	1.0	10000.0	3.00	4.
9500.	0.4008E-01	5	1.0	1.0	10000.0	3.00	7.
10000.	0.3783E-01	5	1.0	1.0	10000.0	3.00	12.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

129.	8.440	5	1.0	1.0	10000.0	3.00	45.

```
***************************************
*** SUMMARY OF SCREEN MODEL RESULTS ***
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```

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	8.440	129.	0.

```
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** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
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