Appendix A

Air Quality and Greenhouse Gas Technical Report

Air Quality and Greenhouse Gas Technical Report

Rockefeller Group Professional Center Addendum

Torrance, California

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AIR QUALITY AND GREENHOUSE TECHNICAL REPORT FOR THE ADDENDUM TO THE ROCKEFELLER GROUP PROFESSIONAL CENTER FINAL EIR

I. Introduction/Background

This Technical Report analyzes potential air quality and greenhouse gas impacts associated with the proposed modifications to the Rockefeller Group Professional Center Project. An Environmental Impact Report (EIR) was prepared for the Rockefeller Group Professional Center Project (State Clearinghouse No. 2007121119) and certified by the City of Torrance in 2010 (Certified EIR).

II. Project Description

A. Project Location

The Project Site encompass a 23.58-acre site located on the south side of Lomita Boulevard between Garnier Street and Crenshaw Boulevard in the southerly extent of the City of Torrance, Los Angeles County, California. As shown in Figure 1 on page 2, the Project Site is bounded by Lomita Boulevard on the north, an access road to Sam's Club on the east, a Costco store and parking lot to the south, and retail and office uses and a church/private school to the west.

B. Approved Project

The Rockefeller Group Professional Center Project, as initially proposed and analyzed in the Draft EIR (Approved Project), included approximately 351,200 square feet of medical/office, professional office and light industrial condominium buildings, to be developed in two phases. The Approved Project included subdivision of an existing 23.58-acre parcel into three lots measuring 14.04 acres, 4.72 acres and 4.82 acres.

Construction of Phase I of the Approved Project was anticipated to require approximately 12 months to complete, while Phase II was estimated to require approximately 11 months to complete. No demolition was proposed. However, approximately 78,300 cubic yards of soil would be brought to the site to raise the grade.

matrix environmental

Figure 1
Project Site Location Map

Source: Google Earth, 2013.

Recompaction of this material in each phase was expected to take approximately two months. In addition, grading would take approximately two months.

C. Modified Project

The Applicant proposes to modify the Approved Project to provide for the development of a 161,500-square-foot Costco warehouse with a car wash and 20-position fueling station and and 75,000 square feet of medical office on the Project Site. As Costco will vacate their 148,000-square-foot existing warehouse adjacent to the Project Site, analysis of the Modified Project includes repurposing of the Existing Costco Site with approximately 148,000 square feet of future discount club use. The proposed Project Site plan for the Modified Project is shown in Figure 2 on page 4.

Similar to the Approved Project, the Modified Project would be constructed in two phases. The entire Project Site would be graded as part of Phase I and would require approximately 60,000 cubic yards of soil import and include over excavation and recompaction of building pad areas. Phase I would include construction of the 161,500-square-foot Costco warehouse with a car wash and fueling station. This Phase would commence mid-2015 and require approximately 8 months to complete. Phase II would include development of 75,000 square feet of medical uses. This Phase would commence in 2017 and require approximately 12 months to complete. Buildout of the Modified Project would be completed in 2018.

III. Comparative Analysis of Modified Project Impacts

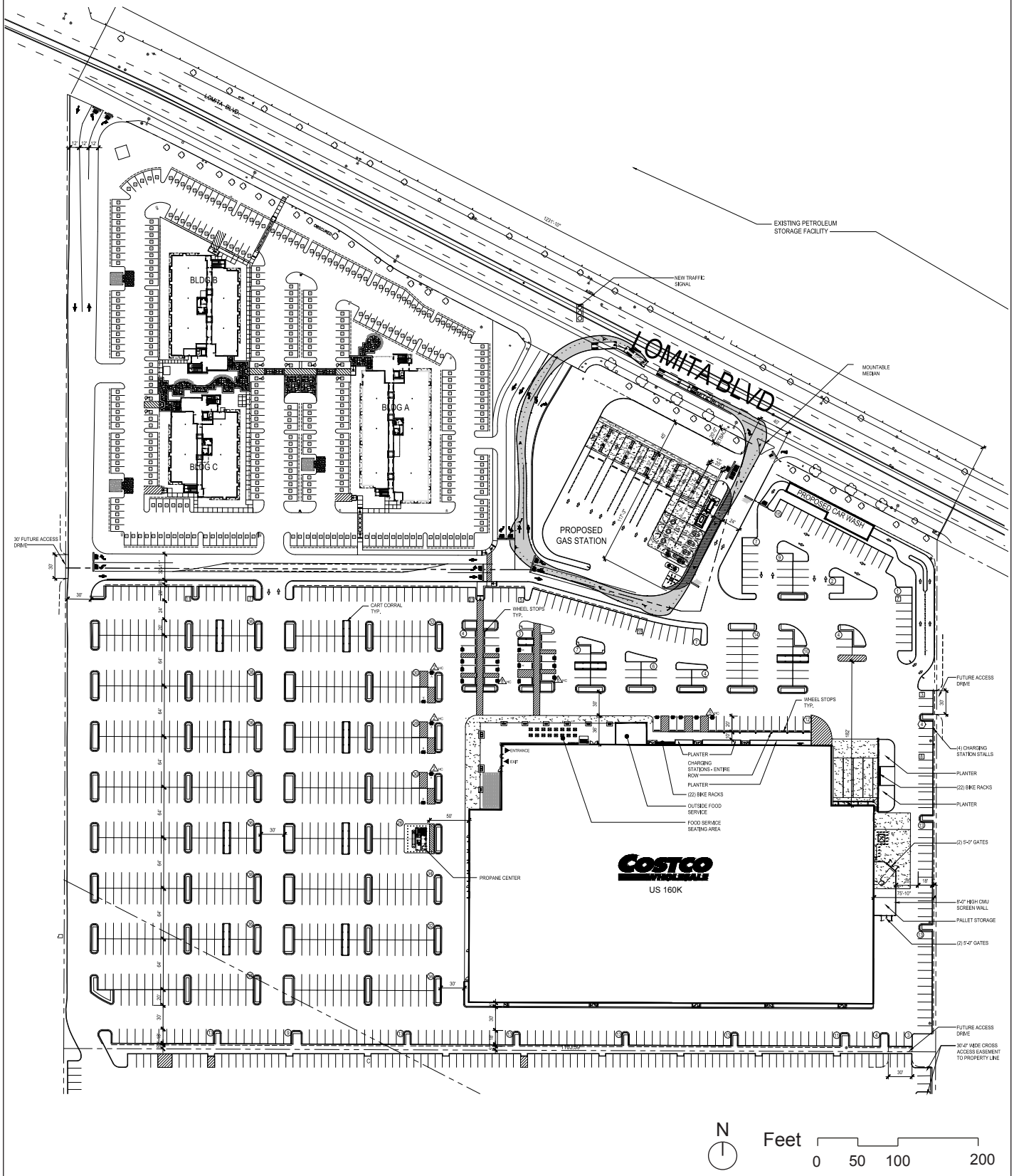
The analyses provided below address the environmental issues of air quality and greenhouse gas analyzed in the Certified EIR and focus on the potential changes in environmental impacts due to the Modified Project. Based on the analyses below, the Modified Project would not result in any new air quality and greenhouse gas impacts or any increase in the severity of impacts previously identified in the Certified EIR.

A. Air Quality

1. Approved Project Impacts

(a) Construction

Construction of the Approved Project would generate pollutant emissions through the use of heavy-duty construction equipment and through haul truck and construction worker trips. Under the Approved Project, pollutant emissions and fugitive dust from Project Site grading and construction activities would not exceed the South Coast Air



matrix environmental

Figure 2
Project Site Plan

Source: Mulvanny Architects, 2014.

Quality Management District (SCAQMD) regional daily significance thresholds for small particles with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), even smaller particles with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$), carbon monoxide (CO), or sulfur oxides (SO_X), but would exceed such thresholds for regional volatile organic compounds (VOC) and nitrogen oxides (NOx) . With implementation of the mitigation measures provided below, regional construction air quality impacts during maximum conditions (those used for measuring significance) would be less than significant for VOC,[1] but would remain significant and unavoidable for NO_X. Localized construction air quality impacts would not exceed NO_X or CO SCAQMD significance thresholds, but would exceed PM_{10} and $PM_{2.5}$ localized significance thresholds.

With respect to construction air toxics, diesel particulate emissions represent the greatest potential for toxic air contaminant (TAC) emissions. Construction of the Approved Project would not result in a long-term (i.e., 70 years) substantial source of TAC emissions. In addition, there would be no residual emissions after construction and corresponding individual cancer risk. As set forth in the Certified EIR, construction-related toxic emission impacts during construction of the Approved Project would be less than significant.

Implementation of Mitigation Measures 3.3(1) through 3.3(10) would ensure that fugitive dust emissions would be reduced by 61 percent. Mitigation Measure 3.3(11) would reduce engine emissions by approximately 5 percent. URBEMIS2007, which was used to calculate architectural coating emissions, includes a default VOC coating content of 250 grams per liter for nonresidential land uses. Mitigation Measures 3.3(13) and 3.3(14) would reduce the VOC content by at least 70 percent. As shown in Tables 3.3-11 and 3.3-12, Phase I ROG emissions would be reduced from 214 to 64 lbs/day, and Phase II ROG emissions would be reduced from 121 to 36 lbs/day. Both Phase I and Phase II ROG emissions would be below SCAQMD thresholds. However, NO_X emissions from construction activity during both Phase I and Phase II would still exceed the SCAQMD threshold with implementation of mitigation measures by 32 lbs/day and 34 lbs/day, respectively. Construction emissions would result in a significant and unavoidable impact.

(b) Operation

Regional air pollutant emissions associated with Approved Project operations would come from the generation and consumption of electricity and natural gas, and by the operation of on-road vehicles. As set forth in the Certified EIR, the localized operational impacts from operational trips generated during the peak hours related to the Approved Project would not result in any significant impacts. However, the total contributions to regional emissions under the Approved Project would be significant for NO_X and CO.

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[1] *Volatile organic compounds (VOC) and ROG are used interchangeably, for purposes of this analysis, since ROG represents approximately 99.9 percent of VOC emissions. Please note that the SCAQMD significance threshold is in terms of VOC and CalEEMod calculates ROG emissions.*

A health risk assessment was completed to determine if on-site commercial/ industrial workers of the Approved Project would be exposed to significant concentrations of hazardous materials. The health risk assessment concluded that on-site commercial/ industrial workers would be exposed to a cumulative incremental lifetime cancer risk (ILCR) of 6×10^{-6} and a total hazard index (HI) of 0.038. The cumulative ILCR was less than the acceptable cumulative ILCR threshold of 1×10^{-5} and the total HI was less than the acceptable total HI of 1.0. Thus, impacts were determined to be less than significant.

With respect to potential air toxic impacts, the Approved Project would avoid locating sensitive receptors or proposing air toxic emitting sources on the Project Site within siting distances identified by SCAQMD and California Air Resources Board guidelines.

(c) Concurrent Construction and Operation

The potential for Phase II construction with concurrent occupancy of Phase I development was addressed in the Certified EIR. These combined emissions were concluded to exceed SCAQMD daily thresholds for VOC and NO_X, but would not exceed the SCAQMD daily threshold for CO, SO_X, $PM_{2.5}$ and PM_{10}. Concurrent construction of Phase II and operation of Phase I under the Approved Project would result in a significant regional air quality impact.

2. Modified Project Impacts

Subsequent to certification of the Final EIR in 2010, changes in the regulatory requirements and policies have occurred, including the adoption of a 1-hour ambient NO_2 air quality standard set forth by the EPA. In addition, the SCAQMD now recommends use of the California Emissions Estimator Model (CalEEMod) instead of the previously SCAQMD recommended Urban Emissions Model (URBEMIS). The air quality analyses for the Modified Project provided herein reflects these changes.

(a) Construction

As with the Approved Project, during construction of the Modified Project, there is a potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Project Site. In addition, fugitive dust emissions would result from grading and construction activities. Mobile source emissions, primarily NO_X, would result from the use of construction equipment such as scrapers and cranes. During the finishing phase, application of architectural coatings (i.e., paints) and other building materials would release VOCs. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Daily regional emissions during construction were calculated using SCAQMD's recommended CalEEMod model. Details are presented in Appendix A of this Technical Report. The calculations reflect the types and quantities of construction equipment that would be used to grade the Project Site; construct the proposed buildings, structures and related improvements; and plant new landscaping within the Project Site. Construction tasks were aggregated to reflect overlapping tasks and identify the maximum construction emissions occurring over the course of Modified Project construction.

In order to provide a conservative analysis, it was assumed that all construction activities would be completed within the minimum timeframe anticipated for construction, which provides for the maximum overlap of construction components within the Modified Project's overall development period as well as the most intense peak daily construction activity for each component of the Modified Project. This is of particular importance as construction emissions are directly related to the duration and intensity of construction activities (i.e., emissions increase as the amount of construction and intensity increases). Emission rates representative of certain stages of construction (i.e., construction worker trips and delivery vehicle trips) would also decrease over time in response to the use of cleaner vehicles and equipment that emit lower levels of pollutants. Detailed construction phasing assumptions are presented in Appendix A of this Technical Report.

As shown in Table 1 on page 8, Modified Project emissions of VOC would exceed the SCAQMD regional threshold. However, VOC emissions under the Modified Project without implementation of mitigation measures would be substantially less than the emissions previously reported under the Approved Project. NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions would also decrease in comparison to the amounts previously reported under the Approved Project. In addition, the Modified Project would eliminate the significant regional NO_X impact that would occur under the Approved Project. As such, the Modified Project would not result in any new impacts or any increase in the severity of any previously identified impacts with respect to regional air quality. Rather, any such impacts would be within the scope of impacts set forth in the Certified EIR.

When quantifying mass emissions for localized analysis, only emissions that occur on-site are considered. Consistent with the SCAQMD Localized Significance Threshold (LST) methodology guidelines, emissions related to off-site delivery/haul truck activity and employee trips are not considered in the evaluation of localized impacts. While the Project Site exceeds 5 acres, the 5-acre LST look-up values can be used as a screening tool to determine which pollutants require detailed analysis.[2] This approach is conservative as it assumes that all on-site emissions would occur within a 5-acre area and would over predict potential localized impacts (i.e., more pollutant emissions occurring within a smaller area and within closer proximity to potential sensitive receptors). If the project exceeds the LST

[2] *Telephone Conversation, Ian MacMillan, SCAQMD CEQA Program Supervisor, November 10, 2011.*

Table 1
Modified Project Unmitigated Regional Construction Emissions[a]
(Pounds per Day)

Emission Source	VOC	NO_X	CO	$SO_{2.5}$	PM_{10}[b]	$PM_{2.5}$[b]
Modified Project						
Phase I						
2015	76	92	59	<1	12	7
2016	76	74	56	<1	7	5
Phase II						
2017	36	34	33	<1	4	2
Maximum Peak Daily	**76**	**92**	**59**	**<1**	**12**	**7**
Comparison to SCAQMD Thresholds						
Modified Project Emissions	76	92	59	<1	12	7
SCAQMD Significance Threshold	75	100	550	150	150	55
Over/(Under)	1	(8)	(491)	(150)	(138)	(47)
Significant?	Yes	No	No	No	No	No
Comparison to Approved Project						
Modified Project Emissions	76	92	59	<1	12	7
Approved Project Emissions[c]	214	136	62	<1	55	13
Over (Under)	**(138)**	**(44)**	**(3)**	**<0.1**	**(43)**	**(6)**

[a] *Compiled using the CalEEMod emissions inventory model. The equipment mix and use assumption for each phase is provided in Appendix A of this Technical Report.*
[b] *PM_{10} and $PM_{2.5}$ emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression.*
[c] *Table 3.3-6 on page 3.3-20 and Table 3.3-7 on page 3.3-21, Section 3.3, Air Quality, of the Certified EIR.*

Source: Matrix Environmental, 2014.

look-up values, then the SCAQMD recommends that project specific air quality modeling must be performed.

As shown in Table 2 on page 9, the Modified Project would not exceed SCAQMD LST significance thresholds for CO, NO_X, PM_{10}, and $PM_{2.5.}$ Although localized emissions from the Modified Project would increase in comparison to the Approved Project, these impacts would remain less than significant. In addition, localized PM_{10} and $PM_{2.5}$ emissions under the Modified Project would decrease in comparison to the Approved Project and the significant localized PM_{10} impact that would occur under the Approved Project would be eliminated. Therefore, impacts with respect to localized air quality under the Modified Project would be less than significant.

With respect to construction air toxics, diesel particulate emissions represent the greatest potential for toxic air contaminant (TAC) emissions. As with the Approved Project,

Table 2
Modified Project Unmitigated Localized Construction Emissions
(Pounds per Day)

Emission Source	NO_X	CO	PM_{10}	$PM_{2.5}$
Modified Project				
Phase I				
2015	90	54	6	5
2016	62	37	4	4
Phase II				
2017	29	20	2	2
Maximum Peak Daily Emissions	**90**	**54**	**6**	**5**
Comparison to SCAQMD LSTs				
Modified Project Emissions	**90**	**54**	**6**	**5**
SCAQMD Significance Threshold[a]	98	1,796	15	8
Over/(Under)	(8)	(1,742)	(9)	(3)
Comparison to Approved Project				
Modified Project Emissions	90	54	6	5
Approved Project Emissions[b]	58	28	19	6
Over (Under)	**32**	**26**	**(13)**	**(1)**

[a] *SCAQMD LSTs based on SRA 3, 5-acre active site area, and 25-meter receptor distance. The SCAQMD localized threshold for NO_X was revised to account for the recently adopted 1 hour NO_2 NAAQS of 188 µg/m^3 or an incremental threshold of 75 µg/m^3 for SRA 3.*

[b] *Table 3.3-6 on page 3.3-20 and Table 3.3-7 on page 3.3-21, Section 3.3, Air Quality, of the Certified EIR.*

Source: Matrix Environmental, 2014.

construction of the Modified Project would not result in a long-term (i.e., 70 years) substantial source of TAC emissions. In addition, there would be no residual emissions after construction and corresponding individual cancer risk. Construction-related toxic emission impacts during construction of the Modified Project would be less than significant.

(b) Operation

Similar to the Approved Project, air pollutant emissions associated with occupancy and operation of the Modified Project would primarily be generated by consumption of natural gas and by the operation of on-road vehicles. Regional emissions were re-evaluated using the SCAQMD's recommended CalEEMod model. The results of this analysis are shown in Table 3 on page 11.

In comparison to the Approved Project, operational emissions for the Modified Project would decrease by 10 lbs/day of VOC, 4 lbs/day of NO_X, 320 lbs/day of CO, 68 lb/day of PM_{10}, 9 lb/day of $PM_{2.5}$, and less than 1lb/day of SO_X. In addition, the Modified Project would eliminate the regional CO impact that would occur under the Approved Project. Based on the above, the Modified Project would not result in any new impacts with respect to regional air quality during operation or increase the severity of any previously identified impacts, and any such impacts would be reduced compared to those identified in the Certified EIR. Therefore, impacts related to regional air quality during operation of the Modified Project would be less than significant.

While the Certified EIR did not evaluate on site localized operational impacts, this Technical Report addresses localized operational impacts associated with the Modified Project. The results of the localized operational analysis are shown in Table 3 on page 11. As shown in Table 3, the Modified Project would not exceed any SCAQMD localized operational significance thresholds. Therefore, impacts related to localized air quality during operation of the Modified Project would be less than significant.

With regard to traffic-related localized air quality impacts, the Modified Project would result in a reduction in the number of peak-hour trips compared to the Approved Project.[3] Therefore, traffic-related localized air quality impacts would be essentially the same or slightly less for the Modified Project as for the Approved Project since the traffic contribution from the Modified Project would be less. In addition, ambient CO concentrations within the Air Basin have decreased subsequently to completion of the FEIR. The CO background concentration at the closest monitoring station to the Project Site (Southwest Coastal Los Angeles County) shows that the 8 hour CO concentration has decreased from 2.5 ppm in 2008 to 1.8 ppm in 2011. Since the localized CO hotspot analysis for the Approved Project did not result in any significant impacts, the Modified Project would likewise not have any localized significant impacts.

Shallow soil and groundwater contamination on the Project Site requires remediation or mitigation necessary to protect future on-site commercial/industrial workers. As with the Approved Project, mitigation measures requiring remediation of the Project Site would reduce the release of hazardous materials related to the on-site soil and groundwater contamination from the Modified Project. Please refer to Section 3.5, Hazards and Hazardous Materials, of the Certified EIR. As the potential for the release of long-term emissions from on-site soil and groundwater contamination would remain the same under the Modified Project, the results of the health risk assessment conducted for the Approved Project would be applicable to the Modified Project. The health risk assessment concluded that on-site commercial/industrial workers would be exposed to a cumulative incremental lifetime cancer risk (ILCR) of 6×10^{-6} and a total hazard index (HI) of 0.038. The

[3] *Torrance Costco Relocation-Transportation Impact Analysis, Kittelson & Associates, Inc., March 2014.*

Table 3
Modified Project Unmitigated Operation Emissions (Buildout 2018)[a]
(Pounds per Day)

Emission Source	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Modified Project						
Project Site (161,500 sq. ft. Costco with car wash and fueling station and 75,000 sq. ft. Medical Office)						
On-Site (Area and Energy)	6	<1	<1	<1	<1	<1
Off-Site (Mobile)	37	82	340	1	53	15
Subtotal	*43*	*83*	*340*	*1*	*53*	*15*
Repurposing of Existing Costco Site (Removal of 148,000 sq. ft. Costco)						
On-Site (Area and Energy)	-4	<-1	<-1	<-1	<-1	<-1
Off-Site (Mobile)	-25	-54	-228	<-1	-35	-10
Subtotal	*-29*	*-54*	*-228*	*<-1*	*-35*	*-10*
Repurposing of Existing Costco Site (148,000 sq. ft. Discount Club)						
On-Site (Area and Energy)	4	<1	<1	<1	<1	<1
Off-Site (Mobile)	22	48	202	<1	31	9
Subtotal	*26*	*48*	*202*	*<1*	*31*	*9*
Total	**40**	**77**	**314**	**1**	**49**	**14**
Comparison to SCAQMD Thresholds (Regional)						
Modified Project Emissions	40	77	314	1	49	14
SCAQMD Significance Threshold	55	55	550	150	150	55
Over/(Under)	(15)	22	(236)	(150)	(101)	(41)
Significant?	No	Yes	No	No	No	No
Comparison to Approved Project (Regional)						
Modified Project Emissions	40	77	314	1	49	14
Approved Project[b]	50	81	634	1	117	23
Over (Under)	**(10)**	**(4)**	**(320)**	**0**	**(68)**	**(9)**
Comparison to SCAQMD Thresholds (Localized)						
Modified Project Emissions	6	<1	<1	<1	<1	<1
SCAQMD Significance Threshold[c]	----	98	1,796	----	5	2
Over/(Under)	----	(98)	(1,796)	----	(5)	(2)
Significant?	----	No	No	----	No	No

[a] *Compiled using the CalEEMod emissions inventory model. The operational emission assumptions are provided in Appendix A of this Technical Report.*

[b] *Table 3.3-8 on page 3.3-23, Section 3.3, Air Quality, of the Certified EIR.*

[c] *SCAQMD LSTs based on SRA 3, 5-acre active site area, and 25-meter receptor distance. The SCAQMD localized threshold for NO_X was revised to account for the recently adopted 1-hour NO_2 NAAQS of 188 µg/m^3 or an incremental threshold of 75 µg/m^3 for SRA 3.*

Source: Matrix Environmental, 2014.

cumulative ILCR is less than the acceptable cumulative ILCR threshold of 1 x 10^{-5} and the total HI is less than the acceptable total HI of 1.0.

The Modified Project would not include any sensitive receptors. Therefore, an analysis was conducted to determine whether the Modified Project would result in the siting of substantial sources of toxic air contaminants near any off-site sensitive receptors that would result in a significant health impact. The Modified Project was analyzed using the Air Quality and Land Use Handbook developed by the CARB (CARB Guidelines). The primary sources of potential toxic air contaminants associated with the Modified Project operations include diesel particulate (DPM) from delivery trucks (e.g., truck traffic on local streets and on-site truck idling) and gasoline vapor from the proposed member-only fueling station. The CARB Guidelines recommend avoid siting sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day or 40 trucks with operating transport refrigeration units (TRUs) per day) and 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater) or 50 feet for typical gas dispensing facilities.

The proposed fueling station would have an annual throughput of approximately 1.2 million gallons, and no sensitive receptors would be located within 50 feet of the fueling station. Although The Modified Project would include daily delivery trucks, the number of trucks would be substantially less than the 100 trucks per day or 40 trucks with TRUs provided in the CARB Guidelines.[4] It should also be noted that the repurposing of the Existing Costco site would include the removal of the existing fueling station. The Modified Project would not result in the siting of sources of toxic air contaminants near sensitive receptors within the recommended buffer zones.

Based on the above, the Modified Project would not result in any new impacts with respect to toxic air contaminants or any increase in the severity of any previously identified impacts, and any such impacts would be similar to those identified in the Certified EIR. Therefore, impacts related to toxic air contaminants under the Modified Project would be less than significant.

(c) Concurrent Construction and Operation

As with the Approved Project, Phase II construction could occur concurrently with occupancy of Phase I development. As shown in Table 4 on page 14, the concurrent emissions under the Modified Project would be substantially reduced in comparison to the Approved Project. However, the Modified Project would still exceed SCAQMD daily

[4] *The proposed Costco on a typical day would receive approximately 10 warehouse delivery trucks. Fifty percent 50 percent of these trucks would be single axle "bread" or box trucks that deliver local good and 50 percent large heavy-duty trucks. In addition, the fueling station would receive approximately one to two fuel trucks per day.*

thresholds for VOC and NO_X. As such, the Modified Project would not result in any new impacts with respect to concurrent construction and operational regional air quality or increase the severity of any previously identified impacts, and any such impacts would be within the scope of impacts set forth in the Certified EIR.

3. Mitigation Measures

The mitigation measures set forth in the MMRP included in the Certified EIR and provided below remain applicable to the Modified Project. No additional mitigation measures are required due to the development of the Modified Project.

The following is a list of feasible control measures that SCAQMD recommends for construction emissions. These mitigation measures shall be implemented for all areas (both on-site and off-site) where construction for the proposed project would occur.

3.3(1) Water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity to prevent generation of dust plumes.

3.3(2) Track-out shall not extend 25 feet or more from an active operation, and track-out shall be removed at the conclusion of each workday.

3.3(3) A wheel washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site.

3.3(4) All haul trucks hauling soil, sand, and other loose materials shall maintain at least six inches of freeboard in accordance with California Vehicle Code Section 23114.

3.3(5) All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

3.3(6) Traffic speeds on unpaved roads shall be limited to 15 miles per hour.

3.3(7) Operations on unpaved surfaces shall be suspended when winds exceed 25 miles per hour.

3.3(8) Heavy equipment operations shall be suspended during first and second stage smog alerts.

3.3(9) On-site stockpiles of debris, dirt, or rusty materials shall be covered or watered at least twice per day.

3.3(10) Grading activity shall be limited to no more than 5 acres during any one day.

3.3(11) Contractors shall maintain equipment and vehicle engines in good condition and in proper tune per manufacturers' specifications.

Table 4
Modified Project Unmitigated Operation Emissions (Interim Year 2017)[a]
(Pounds per Day)

Emission Source	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Modified Project						
Phase I Operation (161,500 sq. ft. Costco with car wash and fueling station)						
On-Site (Area and Energy)	4	<1	<1	<1	<1	<0.01
Off-Site (Mobile)	29	63	264	<1	37	10
Subtotal	33	63	264	<1	37	10
Phase II Construction (75,000 sq. ft. of Medical Office)						
On-Site	35	28	20	<1	2	1.84
Off-Site	1	6	13	<1	2	0.55
Subtotal	*36*	*34*	*33*	*<1*	*4*	*2*
Total	**69**	**97**	**297**	**<1**	**40**	**12**
Comparison to SCAQMD Thresholds (Regional)						
Modified Project Emissions	69	97	297	<1	40	12
SCAQMD Significance Threshold	55	55	550	150	150	55
Over/(Under)	16	42	(253)	(150)	(110)	(43)
Significant?	Yes	Yes	No	No	No	No
Comparison to Approved Project (Regional)						
Modified Project Emissions	69	97	297	<1	40	12
Approved Project[b]	155	191	453	1	89	22
Over (Under)	(86)	(94)	(156)	0	(49)	(10)
Comparison to SCAQMD Thresholds (Localized)						
Modified Project Emissions	40	28	20	<1	2	1.8
SCAQMD Significance Threshold[c]	----	98	1,796	----	5	2
Over/(Under)	----	(70)	(1,776)	----	(3)	(0.2)
Significant?	----	No	No	----	No	No

[a] *Compiled using the CalEEMod emissions inventory model. The construction and operational emission assumptions are provided in Appendix A of this Technical Report.*

[b] *Table 3.3-9 on page 3.3-23, Section 3.3, Air Quality, of the Certified EIR.*

[c] *SCAQMD LSTs based on SRA 3, 5-acre active site area, and 25-meter receptor distance. The SCAQMD localized threshold for NO_X was revised to account for the recently adopted 1-hour NO_2 NAAQS of 188 µg/m^3 or an incremental threshold of 75 µg/m^3 for SRA 3.*

Source: Matrix Environmental, 2014.

3.3(12) Contractors shall utilize electricity from power poles rather than temporary diesel or gasoline generators, as feasible.

3.3(13) Spray equipment with high transfer efficiency, such as the electrostatic spray gun or manual coatings application (e.g., paint brush and hand

roller), shall be used to reduce VOC emissions, to the maximum extent feasible.

3.3(14) Architectural coating shall have a VOC content of 75 grams per liter or less. The coatings shall be purchased from a super-compliant architectural coating manufacturer as identified by the SCAQMD (www.aqmd.gov.prdas/brochures/Super-Compliant_AIM.pdf).

4. Impacts After Mitigation

As with the Approved Project, iimplementation of Mitigation Measures 3.3(1) through 3.3(10) would ensure that fugitive dust emissions from the Modified Project would be reduced by 61 percent. Mitigation Measure 3.3(11) would reduce engine emissions by approximately 5 percent. CalEEMod, which was used to calculate architectural coating emissions, includes a default VOC coating content of 250 grams per liter for nonresidential land uses. Mitigation Measures 3.3(13) and 3.3(14) would reduce the VOC content by at least 70 percent. As shown in Table 5 on page 16, VOC emissions would be reduced to less than significant levels with mitigation measures. This is also the case for the Approved Project. The Modified Project would also reduce the significant regional NO_X impact under the Approved Project to less than significant. As such, the Modified Project would not result in any new impacts with respect to regional air quality or increase the severity of any previously identified impacts, and any such impacts would be within the scope of impacts set forth in the Certified EIR.

As shown in Table 6 on page 17, the Modified Project would not exceed SCAQMD LST significance thresholds for CO, NO_X, PM_{10}, and $PM_{2.5.}$ Therefore, impacts with respect to localized air quality under the Modified Project would be less than significant.

B. Greenhouse Gases

1. Approved Project Impacts

GHG emissions related to the Approved Project were calculated from mobile sources, natural gas usage, and electricity generation. The Approved Project was determined to result in 15,389 metric tons per year of carbon dioxide equivalent (CO_2e) and concluded to be less than significant since the Approved Project would comply with Assembly Bill (AB) 32-related regulations.

2. Modified Project Impacts

Subsequent to certification of the Final EIR in March 2010, the SCAQMD now recommends use of the California Emissions Estimator Model (CalEEMod) instead of the previously SCAQMD recommended Urban Emissions Model (URBEMIS). The GHG analysis for the Modified Project provided herein reflects these changes.

Table 5
Modified Project Regional Construction Emissions-Mitigated[a]
(Pounds per Day)

Emission Source	VOC	NO_X	CO	$SO_{2.5}$	PM_{10}[b]	$PM_{2.5}$[b]
Modified Project						
Phase I						
2015	29	88	57	<1	8	5
2016	29	71	54	<1	7	5
Phase II						
2017	14	27	29	<1	3	2
Maximum Peak Daily	**29**	**88**	**57**	**<1**	**8**	**5**
Comparison to SCAQMD Thresholds						
Modified Project Emissions	29	88	57	<1	8	5
SCAQMD Significance Threshold	75	100	550	150	150	55
Over/(Under)	(46)	(12)	(493)	(150)	(142)	(50)
Significant?	No	No	No	No	No	No
Comparison to Approved Project						
Modified Project Emissions	29	88	57	<1	8	5
Approved Project Emissions[c]	64	134	60	<1	55	13
Over (Under)	**(35)**	**(46)**	**(3))**	**<0.1**	**(47)**	**(8)**

[a] *Compiled using the CalEEMod emissions inventory model. The equipment mix and use assumption for each phase is provided in Appendix A of this Technical Report.*

[b] *PM_{10} and $PM_{2.5}$ emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression.*

[c] *Table 3.3-11 on page 3.3-29 and Table 3.3-12 on page 3.3-30, Section 3.3, Air Quality, of the Certified EIR.*

Source: Matrix Environmental, 2014.

The Modified Project would include numerous features to reduce GHG emissions from vehicular traffic, including encouraging employee carpooling, vanpooling and bicycle commuting and providing preferential parking for carpools and vanpools. In addition, the Project would meet the 2013 California Green Building Standards, Title 24, Part 11 (CALGreen). These features would include fixtures and infrastructure that use less energy and water. Examples of these features include light fixtures and motion control light switches that use less energy, water use reduction devices limiting water usage, and “drought tolerant” plants within landscaped areas.

The State has mandated a goal of reducing state-wide emissions to 1990 levels by 2020, even though State-wide population and commerce is predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce Statewide GHG emissions. The inclusion of the above

Table 6
Modified Project Localized Construction Emissions-Mitigated
(Pounds per Day)

Emission Source	NO_X	CO	PM_{10}	$PM_{2.5}$
Modified Project				
Phase I				
2015	85	51	6	5
2016	64	39	4	4
Phase II				
2017	27	19	2	2
Maximum Peak Daily Emissions	**85**	**51**	**6**	**5**
Comparison to SCAQMD LSTs				
Modified Project Emissions	**85**	**51**	**6**	**5**
SCAQMD Significance Threshold[c]	98	1,796	15	8
Over/(Under)	(13)	(1,745)	(9)	(3)
Comparison to Approved Project				
Modified Project Emissions	85	51	6	5
Approved Project Emissions[b]	69	29	55	13
Over (Under)	**16**	**22**	**(49)**	**(8)**

[a] *SCAQMD LSTs based on SRA 3, 5-acre active site area, and 25-meter receptor distance. The SCAQMD localized threshold for NO_X was revised to account for the recently adopted 1 hour NO_2 NAAQS of 188 µg/m^3 or an incremental threshold of 75 µg/m^3 for SRA 3.*

[b] *Table 3.3-6 on page 3.3-20 and Table 3.3-7 on page 3.3-21, Section 3.3, Air Quality, of the Certified EIR.*

Source: Matrix Environmental, 2014.

project features demonstrates that the Modified Project would be consistent with the goals of California's AB 32 and, therefore, would have no significant impacts.

As shown in Table 7 on page 18, the Modified Project would result in an annual total of 10,772 metric tons of carbon dioxide equivalent (CO_2e). This would represent an approximate 30 percent reduction in emissions in comparison to the Approved Project and a reduction of approximately 4,617 metric tons CO_2e in comparison to the Approved Project. As such, the Modified Project would not result in any new impacts with respect to GHG emissions or increase the severity of any previously identified impacts. Rather, any such impacts would be within the scope of impacts set forth in the Certified EIR.

Table 7
Annual GHG Emissions Summary
(Metric Tons of Carbon Dioxide Equivalent)

Scope	Modified Project			
	Project Site	Repurposing of Existing Costco Site		Total
		Removal of 148,000 sq. ft. Costco	Addition of 148,000 sq. ft. Discount Club	
Area	<1	<-1	<1	<1
Energy	1,645	-1,074	1,074	1,645
Mobile	8,887	-5,991	5,322	7,880
Waste	682	-290	290	682
Water	185	-135	135	185
Construction	42			
Modified Project (total)	**11,441**	**-7,489**	**6,820**	**10,772**
Approved Project (total)				**15,389**
Difference (Modified Project less Approved Project)				**(4,617)**
% Difference (Modified Project less Approved Project)				**(30%)**

Source: Matrix Environmental, 2014.

3. Mitigation Measures

As no significant impacts would result from the Approved Project, no GHG mitigation measures were set forth in the MMRP included in the Certified EIR. Similarly, as no significant impacts would result from the Modified Project, no mitigation measures are required or proposed.

IV. Conclusion

As demonstrated by the discussion above, air quality and GHG impacts associated with the Modified Project would be similar to or less than the impacts addressed in the Certified EIR. Thus, a new or substantially greater significant impact air quality or GHG impact would not result from the Modified Project. In addition, all of the air quality mitigation measures included as part of the Certified EIR would continue to be implemented under the Modified Project. As all of the impacts air quality and GHG impacts would be within the scope of impacts identified in the Certified EIR, no additional environmental analysis of the Modified Project is necessary.

Appendix A

- Air Quality Worksheets and Model Output
  - Construction Assumptions
  - LST Calculations
  - CalEEMod Construction Output Files
    - Phase I Construction
    - Phase II Construction
  - CalEEMod Saturday and Sunday Scalar for Project Specific Traffic Study
  - CalEEMod Operation Output Files
    - Relocation of Torrance Costco (Buildout) Project Site
    - Existing Costo (2018)
    - Repurposing of Existing Costco Site with Shopping Center (2018)
    - Interim Year 2017 (Phase I Operation and Phase II Construction)

Construction Assumptions for the Air Quality Analysis
Phase 1

1) **Rough Grading (6/1/15- 6/30/15) (26 days):**
    - 10 acres disturbed per day
    - Maximum of 20 vendor trips per day
    - 40 trips for workers
    - Equipment on Worst-case Day
        - 1-Grader (8 hrs per day)
        - 1-Water Truck (2 hr per day)
        - 1-Rubber Tired Dozer (8 hrs per day)
        - 1-Rubber Tired Loader (8 hrs per day)
        - 3-Scrapers (8 hrs per day)

2) **Import (7/1/15- 8/7/15) (33 days):**
    - 10 acres disturbed per day
    - 60,000 cubic yards of import
    - Maximum of 150 haul truck trips per day
    - 40 trips for workers
    - Equipment on Worst-case Day
        - 1-Water Truck (4hrs per day)
        - 1-Rubber Tired Dozer (8 hrs per day)
        - 1-Sweeper (8 hrs per day)

3) **Base (8/8/15- 8/16/15) (7 days):**
    - Maximum of 60 haul truck trips/day
    - 40 trips for workers
    - Equipment on Worst-case Day
        - 1-Off-Highway Truck (8 hrs per day)
        - 1-Water Truck (4 hrs per day)
        - 3-Rollers (8 hrs per day)
        - 2-Skid Steer Loaders (8 hrs per day)

4) **Paving (8/17/15- 8/24/15) (7 days):**
    - Maximum of 50 haul truck trips/day
    - 40 trips for workers
    - Equipment on Worst-case Day
        - 2-Cement and Mortar Mixers (6 hrs per day)
        - 1-Paver (8 hrs per day)
        - 1-Paving Equipment (8 hrs per day)
        - 3-Rollers (8 hrs per day)
        - 1-Skid Steer Loader (8 hrs per day)
        - 1-Backhoe (8 hrs per day)

5) **Foundation (8/25/15- 9/5/15) (11 days):**
    - Maximum of 60 haul truck trips/day
    - 40 trips for workers
    - Equipment on Worst-case Day

- 4-Cement and Mortar Mixers (8 hrs per day)
- 2-Concrete/Industrial Saws (8 hrs per day)
- 6-Plate Compactors (8 hrs per day)
- 2-Pumps (8 hrs per day)
- 1-Rubber Tired Loaders (8 hrs per day)

6) Building Construction (9/6/15- 1/12/16) (110 days):

- 161,500 sf of free-standing discount superstore
- Maximum of 10 delivery/haul truck trips/day
- Maximum of 40 vendor trips per day
- 125 trips for workers
- Equipment
    - 5-air compressors (8 hrs per day)
    - 4-Cranes (7 hrs per day)
    - 2-Excavators (8 hrs per day)
    - 2-Forklifts (8 hrs per day)
    - 1-Generator Set (8 hrs per day)
    - 3-Welders (8 hrs per day)

7) Landscape (1/13/16- 1/18/16) (5 days):

- Maximum of 10 delivery/haul truck rips/day
- 40 trips for workers
- Equipment
    - 2-Skid Steer Loaders (8 hrs per day)
    - 2-Tractor/Loader/Backhoe (8 hrs per day)

Construction Assumptions for the Air Quality Analysis
Phase 2

8) **Foundation (1/1/17-1/31/17) (22 days):**
    - Maximum of 40 haul truck trips/day
    - Maximum of 10 vendor trips per day
    - 40 trips for workers
    - Equipment on Worst-case Day
        - 2-Cement and Mortar Mixers (8 hrs per day)
        - 2-Concrete/Industrial Saws (8 hrs per day)
        - 4-Plate Compactors (8 hrs per day)
        - 2-Welders (8 hrs per day)

9) **Building Construction (2/1/17- 12/15/17) (228 days):**
    - 75,000 sf of medical office buildings
    - Maximum of 40 delivery/haul truck trips/day
    - 125 trips for workers
    - Equipment
        - 1-air compressors (6 hrs per day)
        - 1-Cranes (7 hrs per day)
        - 3-Forklifts (8 hrs per day)
        - 1-Generator Set (8 hrs per day)
        - 3-Backhoes (7 hrs per day)
        - 1-Welders (8 hrs per day)

10) **Paving/Landscape (12/16/17- 12/31/17) (10 days):**
    - Maximum of 10 haul truck trips/day
    - 40 trips for workers
    - Equipment on Worst-case Day
        - 1-Cement and Mortar Mixers (6 hrs per day)
        - 2-Pavers (8 hrs per day)
        - 2-Paving Equipment (8 hrs per day)
        - 2-Rollers (8 hrs per day)
        - 1-Backhoe (8 hrs per day)

Step 1. Determine Allowable Increase using 98th percentile NO2 and Max NO2 data

SW Coastal NO2 Monitoring Data

		AQMD Design Value 98th %						
		2010-2012	2009	2010	2011	2012	Threshold (ppb)	Allowable Increase (ppb)
		60.2	69	61	65	55	100	40

		Design Value	Max Hourly, ppb				Threshold (ppb)	Allowable Increase (ppb)
		2006-2008	2008	2009	2010	2011		
		100	0.09	0.077	0.076	0.098	180	80

Max Hourly vs. 98th Percentile Ratio (Allowable Increase)	**50%**

Step 2. Use ratio in Step 1 to determine LST lookup value. Extrapolate/Interpolate LST look-up value for project area

LST Threshold (SRA 1, 25 meter receptor)

Project Size (acres)	NO2 (lbs/day)	98th Percentile NO2 (lbs/day)	CO (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
5	197	98	1796	15	8

Relocation of Torrance Costco Construction Phase I

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	0.00	1000sqft	0.00	0.00	0
Free-Standing Discount Superstore	161.50	1000sqft	3.67	161,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2016
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Grading of the Project Site and Phase I Construction (161,500 sq ft Costco).

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Trips and VMT - Site Specific

Grading - Site Specific for Phase I

Architectural Coating -

Vehicle Trips - Site Specific

Construction Off-road Equipment Mitigation - Site Specific

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	240000	352500
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	18.00	56.00
tblConstructionPhase	NumDays	230.00	110.00
tblConstructionPhase	NumDays	8.00	33.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	5.00	26.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	3/30/2016	1/18/2016
tblConstructionPhase	PhaseEndDate	8/15/2015	8/16/2015
tblConstructionPhase	PhaseEndDate	1/23/2016	1/18/2016
tblConstructionPhase	PhaseStartDate	1/13/2016	11/1/2015
tblConstructionPhase	PhaseStartDate	1/19/2016	1/13/2016
tblGrading	AcresOfGrading	0.00	10.00
tblGrading	AcresOfGrading	91.00	10.00
tblGrading	MaterialImported	0.00	60,000.00
tblOffRoadEquipment	HorsePower	9.00	162.00
tblOffRoadEquipment	HorsePower	199.00	255.00
tblOffRoadEquipment	LoadFactor	0.56	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripNumber	7,500.00	4,950.00
tblTripsAndVMT	HaulingTripNumber	0.00	420.00
tblTripsAndVMT	HaulingTripNumber	0.00	350.00
tblTripsAndVMT	HaulingTripNumber	0.00	660.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,100.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	26.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	18.00	40.00
tblTripsAndVMT	WorkerTripNumber	8.00	40.00
tblTripsAndVMT	WorkerTripNumber	18.00	40.00
tblTripsAndVMT	WorkerTripNumber	23.00	40.00
tblTripsAndVMT	WorkerTripNumber	38.00	40.00
tblTripsAndVMT	WorkerTripNumber	51.00	100.00
tblTripsAndVMT	WorkerTripNumber	10.00	25.00
tblTripsAndVMT	WorkerTripNumber	10.00	40.00
tblVehicleTrips	ST_TR	64.07	56.65

tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	SU_TR	56.12	49.62
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	WD_TR	53.13	46.98
tblVehicleTrips	WD_TR	36.13	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	76.4387	92.1124	59.1777	0.1319	9.6078	4.5463	11.5945	4.2097	4.3567	7.1044		13,392.8812				13,438.0117
2016	75.6387	74.3699	56.2445	0.0988	3.1429	4.1723	7.3152	0.8137	3.9940	4.8077		9,477.7824				9,510.3233
Total	**152.0774**	**166.4823**	**115.4221**	**0.2307**	**12.7507**	**8.7186**	**18.9097**	**5.0234**	**8.3507**	**11.9121**		**22,870.6636**				**22,948.3350**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	76.4387	92.1124	59.1777	0.1319	5.6129	4.5463	7.5995	2.1503	4.3567	5.0583		13,392.8812				13,438.0117
2016	75.6387	74.3699	56.2445	0.0988	3.1429	4.1723	7.3152	0.8137	3.9940	4.8077		9,477.7824				9,510.3233
Total	**152.0774**	**166.4823**	**115.4221**	**0.2307**	**8.7558**	**8.7186**	**14.9147**	**2.9640**	**8.3507**	**9.8660**		**22,870.6636**				**22,948.3350**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**31.33**	**0.00**	**21.13**	**41.00**	**0.00**	**17.18**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Rough Grading	Site Preparation	6/1/2015	6/30/2015	6	26	
2	Import	Grading	7/1/2015	8/7/2015	6	33	
3	Base	Trenching	8/8/2015	8/16/2015	6	7	
4	Paving	Paving	8/17/2015	8/24/2015	6	7	
5	Foundation	Trenching	8/25/2015	9/5/2015	6	11	
6	Building Construction	Building Construction	9/6/2015	1/12/2016	6	110	
7	Architectural Coating	Architectural Coating	11/1/2015	1/18/2016	5	56	
8	Landscape Improvements	Trenching	1/13/2016	1/18/2016	6	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 240,000; Non-Residential Outdoor: 80,000 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Rough Grading	Graders	1	8.00	174	0.41
Rough Grading	Other Construction Equipment	1	2.00	171	0.42
Rough Grading	Rubber Tired Dozers	1	8.00	255	0.40
Rough Grading	Rubber Tired Loaders	1	8.00	199	0.36
Rough Grading	Scrapers	3	8.00	361	0.48
Rough Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Import	Excavators	0	8.00	162	0.38
Import	Graders	0	8.00	174	0.41
Import	Other Construction Equipment	1	4.00	171	0.42
Import	Rubber Tired Dozers	0	8.00	255	0.40
Import	Rubber Tired Dozers	1	8.00	255	0.40
Import	Sweepers/Scrubbers	1	8.00	64	0.46
Import	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Base	Off-Highway Trucks	1	8.00	400	0.38
Base	Other Construction Equipment	1	4.00	171	0.42
Base	Rollers	3	8.00	80	0.38
Base	Skid Steer Loaders	2	8.00	64	0.37
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	3	8.00	80	0.38
Paving	Skid Steer Loaders	1	8.00	64	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Foundation	Cement and Mortar Mixers	4	8.00	162	0.38
Foundation	Concrete/Industrial Saws	2	8.00	81	0.73
Foundation	Plate Compactors	6	8.00	8	0.43
Foundation	Pumps	2	8.00	84	0.74
Foundation	Rubber Tired Loaders	1	8.00	255	0.40
Building Construction	Air Compressors	3	8.00	78	0.48
Building Construction	Cranes	4	7.00	226	0.29
Building Construction	Excavators	2	8.00	162	0.38
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	2	6.00	78	0.48
Landscape Improvements	Skid Steer Loaders	2	8.00	64	0.37
Landscape Improvements	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Rough Grading	7	40.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Import	3	40.00	0.00	4,950.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Base	7	40.00	0.00	420.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	9	40.00	0.00	350.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Foundation	15	40.00	0.00	660.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	15	100.00	40.00	1,100.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Landscape Improvements	4	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Rough Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4300	0.0000	6.4300	3.3543	0.0000	3.3543						0.0000
Off-Road	7.3532	89.8088	53.6278	0.0675		3.8708	3.8708		3.5612	3.5612		7,089.0392				7,133.4830
Total	**7.3532**	**89.8088**	**53.6278**	**0.0675**	**6.4300**	**3.8708**	**10.3008**	**3.3543**	**3.5612**	**6.9154**		**7,089.0392**				**7,133.4830**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Vendor	0.2120	2.0286	2.6681	4.3700e-003	0.1247	0.0336	0.1582	0.0355	0.0309	0.0663		441.5568				441.6339
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**0.4175**	**2.3036**	**5.5499**	**9.8600e-003**	**0.5718**	**0.0380**	**0.6098**	**0.1540**	**0.0350**	**0.1890**		**921.5998**				**922.2865**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5077	0.0000	2.5077	1.3082	0.0000	1.3082						0.0000
Off-Road	7.3532	89.8088	53.6278	0.0675		3.8708	3.8708		3.5612	3.5612		7,089.0392				7,133.4830
Total	**7.3532**	**89.8088**	**53.6278**	**0.0675**	**2.5077**	**3.8708**	**6.3785**	**1.3082**	**3.5612**	**4.8693**		**7,089.0392**				**7,133.4830**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Vendor	0.2120	2.0286	2.6681	4.3700e-003	0.1247	0.0336	0.1582	0.0355	0.0309	0.0663		441.5568				441.6339
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**0.4175**	**2.3036**	**5.5499**	**9.8600e-003**	**0.5718**	**0.0380**	**0.6098**	**0.1540**	**0.0350**	**0.1890**		**921.5998**				**922.2865**

3.3 Import - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5491	0.0000	6.5491	3.3761	0.0000	3.3761						0.0000
Off-Road	2.0587	21.9087	15.2455	0.0145		1.1949	1.1949		1.0993	1.0993		1,523.1888				1,532.7383
Total	**2.0587**	**21.9087**	**15.2455**	**0.0145**	**6.5491**	**1.1949**	**7.7439**	**3.3761**	**1.0993**	**4.4753**		**1,523.1888**				**1,532.7383**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.1906	49.2700	37.1878	0.1120	2.6116	0.7873	3.3990	0.7150	0.7242	1.4392		11,389.6494				11,391.6219
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**3.3962**	**49.5450**	**40.0696**	**0.1175**	**3.0588**	**0.7918**	**3.8506**	**0.8336**	**0.7283**	**1.5619**		**11,869.6924**				**11,872.2744**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5541	0.0000	2.5541	1.3167	0.0000	1.3167						0.0000
Off-Road	2.0587	21.9087	15.2455	0.0145		1.1949	1.1949		1.0993	1.0993		1,523.1888				1,532.7383
Total	**2.0587**	**21.9087**	**15.2455**	**0.0145**	**2.5541**	**1.1949**	**3.7490**	**1.3167**	**1.0993**	**2.4159**		**1,523.1888**				**1,532.7383**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.1906	49.2700	37.1878	0.1120	2.6116	0.7873	3.3990	0.7150	0.7242	1.4392		11,389.6494				11,391.6219
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**3.3962**	**49.5450**	**40.0696**	**0.1175**	**3.0588**	**0.7918**	**3.8506**	**0.8336**	**0.7283**	**1.5619**		**11,869.6924**				**11,872.2744**

3.4 Base - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7282	29.3554	16.5163	0.0282		1.6061	1.6061		1.4776	1.4776		2,958.7445				2,977.2940
Total	**2.7282**	**29.3554**	**16.5163**	**0.0282**		**1.6061**	**1.6061**		**1.4776**	**1.4776**		**2,958.7445**				**2,977.2940**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2762	19.7080	14.8751	0.0448	1.0447	0.3149	1.3596	0.2860	0.2897	0.5757		4,555.8597				4,556.6488
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**1.4818**	**19.9830**	**17.7570**	**0.0503**	**1.4918**	**0.3194**	**1.8112**	**0.4046**	**0.2938**	**0.6984**		**5,035.9028**				**5,037.3013**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.7282	29.3554	16.5163	0.0282		1.6061	1.6061		1.4776	1.4776		2,958.7445				2,977.2940
Total	**2.7282**	**29.3554**	**16.5163**	**0.0282**		**1.6061**	**1.6061**		**1.4776**	**1.4776**		**2,958.7445**				**2,977.2940**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2762	19.7080	14.8751	0.0448	1.0447	0.3149	1.3596	0.2860	0.2897	0.5757		4,555.8597				4,556.6488
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**1.4818**	**19.9830**	**17.7570**	**0.0503**	**1.4918**	**0.3194**	**1.8112**	**0.4046**	**0.2938**	**0.6984**		**5,035.9028**				**5,037.3013**

3.5 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4629	24.8925	15.8555	0.0226		1.5920	1.5920		1.4665	1.4665		2,337.5221				2,351.8670
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**2.4629**	**24.8925**	**15.8555**	**0.0226**		**1.5920**	**1.5920**		**1.4665**	**1.4665**		**2,337.5221**				**2,351.8670**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0635	16.4233	12.3959	0.0373	0.8706	0.2625	1.1330	0.2384	0.2414	0.4798		3,796.5498				3,797.2073
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**1.2691**	**16.6983**	**15.2778**	**0.0428**	**1.3177**	**0.2669**	**1.5846**	**0.3569**	**0.2455**	**0.6024**		**4,276.5928**				**4,277.8598**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4629	24.8925	15.8555	0.0226		1.5920	1.5920		1.4665	1.4665		2,337.5221				2,351.8670
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**2.4629**	**24.8925**	**15.8555**	**0.0226**		**1.5920**	**1.5920**		**1.4665**	**1.4665**		**2,337.5221**				**2,351.8670**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0635	16.4233	12.3959	0.0373	0.8706	0.2625	1.1330	0.2384	0.2414	0.4798		3,796.5498				3,797.2073
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**1.2691**	**16.6983**	**15.2778**	**0.0428**	**1.3177**	**0.2669**	**1.5846**	**0.3569**	**0.2455**	**0.6024**		**4,276.5928**				**4,277.8598**

3.6 Foundation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9011	31.1431	20.8575	0.0373		1.9736	1.9736		1.9463	1.9463		3,549.2287				3,560.8714
Total	**3.9011**	**31.1431**	**20.8575**	**0.0373**		**1.9736**	**1.9736**		**1.9463**	**1.9463**		**3,549.2287**				**3,560.8714**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2762	19.7080	14.8751	0.0448	1.0447	0.3149	1.3596	0.2860	0.2897	0.5757		4,555.8597				4,556.6488
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**1.4818**	**19.9830**	**17.7570**	**0.0503**	**1.4918**	**0.3194**	**1.8112**	**0.4046**	**0.2938**	**0.6984**		**5,035.9028**				**5,037.3013**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9011	31.1431	20.8575	0.0373		1.9736	1.9736		1.9463	1.9463		3,549.2287				3,560.8714
Total	**3.9011**	**31.1431**	**20.8575**	**0.0373**		**1.9736**	**1.9736**		**1.9463**	**1.9463**		**3,549.2287**				**3,560.8714**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2762	19.7080	14.8751	0.0448	1.0447	0.3149	1.3596	0.2860	0.2897	0.5757		4,555.8597				4,556.6488
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.2056	0.2750	2.8819	5.4900e-003	0.4471	4.4700e-003	0.4516	0.1186	4.0900e-003	0.1227		480.0430				480.6525
Total	**1.4818**	**19.9830**	**17.7570**	**0.0503**	**1.4918**	**0.3194**	**1.8112**	**0.4046**	**0.2938**	**0.6984**		**5,035.9028**				**5,037.3013**

3.7 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.1321	65.8188	37.6993	0.0595		3.9710	3.9710		3.7921	3.7921		5,876.3414				5,906.2719
Total	**8.1321**	**65.8188**	**37.6993**	**0.0595**		**3.9710**	**3.9710**		**3.7921**	**3.7921**		**5,876.3414**				**5,906.2719**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2127	3.2847	2.4792	7.4600e-003	0.1873	0.0525	0.2398	0.0509	0.0483	0.0992		759.3100				759.4415
Vendor	0.4239	4.0572	5.3361	8.7400e-003	0.2494	0.0671	0.3165	0.0709	0.0617	0.1327		883.1137				883.2679
Worker	0.5140	0.6875	7.2046	0.0137	1.1178	0.0112	1.1289	0.2964	0.0102	0.3067		1,200.1075				1,201.6313
Total	**1.1506**	**8.0293**	**15.0199**	**0.0299**	**1.5544**	**0.1308**	**1.6852**	**0.4183**	**0.1202**	**0.5385**		**2,842.5312**				**2,844.3406**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.1321	65.8188	37.6993	0.0595		3.9710	3.9710		3.7921	3.7921		5,876.3414				5,906.2719
Total	**8.1321**	**65.8188**	**37.6993**	**0.0595**		**3.9710**	**3.9710**		**3.7921**	**3.7921**		**5,876.3414**				**5,906.2719**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2127	3.2847	2.4792	7.4600e-003	0.1873	0.0525	0.2398	0.0509	0.0483	0.0992		759.3100				759.4415
Vendor	0.4239	4.0572	5.3361	8.7400e-003	0.2494	0.0671	0.3165	0.0709	0.0617	0.1327		883.1137				883.2679
Worker	0.5140	0.6875	7.2046	0.0137	1.1178	0.0112	1.1289	0.2964	0.0102	0.3067		1,200.1075				1,201.6313
Total	**1.1506**	**8.0293**	**15.0199**	**0.0299**	**1.5544**	**0.1308**	**1.6852**	**0.4183**	**0.1202**	**0.5385**		**2,842.5312**				**2,844.3406**

3.7 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.5500	62.3585	37.0775	0.0595		3.6689	3.6689		3.4995	3.4995		5,840.3616				5,869.4946
Total	**7.5500**	**62.3585**	**37.0775**	**0.0595**		**3.6689**	**3.6689**		**3.4995**	**3.4995**		**5,840.3616**				**5,869.4946**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1865	2.9018	2.3057	7.4600e-003	1.4963	0.0416	1.5379	0.3722	0.0383	0.4105		750.9174				751.0358
Vendor	0.3718	3.5882	4.9513	8.7300e-003	0.2495	0.0553	0.3048	0.0710	0.0509	0.1218		873.5684				873.7081
Worker	0.4634	0.6216	6.5137	0.0137	1.1178	0.0106	1.1283	0.2964	9.7200e-003	0.3062		1,160.0311				1,161.4361
Total	**1.0217**	**7.1116**	**13.7707**	**0.0299**	**2.8635**	**0.1075**	**2.9710**	**0.7396**	**0.0988**	**0.8385**		**2,784.5169**				**2,786.1800**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.5500	62.3585	37.0775	0.0595		3.6689	3.6689		3.4995	3.4995		5,840.3616				5,869.4946
Total	**7.5500**	**62.3585**	**37.0775**	**0.0595**		**3.6689**	**3.6689**		**3.4995**	**3.4995**		**5,840.3616**				**5,869.4946**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1865	2.9018	2.3057	7.4600e-003	1.4963	0.0416	1.5379	0.3722	0.0383	0.4105		750.9174				751.0358
Vendor	0.3718	3.5882	4.9513	8.7300e-003	0.2495	0.0553	0.3048	0.0710	0.0509	0.1218		873.5684				873.7081
Worker	0.4634	0.6216	6.5137	0.0137	1.1178	0.0106	1.1283	0.2964	9.7200e-003	0.3062		1,160.0311				1,161.4361
Total	**1.0217**	**7.1116**	**13.7707**	**0.0299**	**2.8635**	**0.1075**	**2.9710**	**0.7396**	**0.0988**	**0.8385**		**2,784.5169**				**2,786.1800**

3.8 Architectural Coating - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.2143					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	0.8132	5.1407	3.8035	5.9400e-003		0.4418	0.4418		0.4418	0.4418		562.8961				564.4353
Total	**67.0275**	**5.1407**	**3.8035**	**5.9400e-003**		**0.4418**	**0.4418**		**0.4418**	**0.4418**		**562.8961**				**564.4353**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.1285	0.1719	1.8012	3.4300e-003	0.2794	2.7900e-003	0.2822	0.0741	2.5600e-003	0.0767		300.0269				300.4078
Total	**0.1285**	**0.1719**	**1.8012**	**3.4300e-003**	**0.2794**	**2.7900e-003**	**0.2822**	**0.0741**	**2.5600e-003**	**0.0767**		**300.0269**				**300.4078**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.2143					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	0.8132	5.1407	3.8035	5.9400e-003		0.4418	0.4418		0.4418	0.4418		562.8961				564.4353
Total	**67.0275**	**5.1407**	**3.8035**	**5.9400e-003**		**0.4418**	**0.4418**		**0.4418**	**0.4418**		**562.8961**				**564.4353**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.1285	0.1719	1.8012	3.4300e-003	0.2794	2.7900e-003	0.2822	0.0741	2.5600e-003	0.0767		300.0269				300.4078
Total	**0.1285**	**0.1719**	**1.8012**	**3.4300e-003**	**0.2794**	**2.7900e-003**	**0.2822**	**0.0741**	**2.5600e-003**	**0.0767**		**300.0269**				**300.4078**

3.8 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.2143					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	0.7369	4.7445	3.7678	5.9400e-003		0.3932	0.3932		0.3932	0.3932		562.8961				564.2897
Total	**66.9512**	**4.7445**	**3.7678**	**5.9400e-003**		**0.3932**	**0.3932**		**0.3932**	**0.3932**		**562.8961**				**564.2897**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.1158	0.1554	1.6284	3.4300e-003	0.2794	2.6400e-003	0.2821	0.0741	2.4300e-003	0.0765		290.0078				290.3590
Total	**0.1158**	**0.1554**	**1.6284**	**3.4300e-003**	**0.2794**	**2.6400e-003**	**0.2821**	**0.0741**	**2.4300e-003**	**0.0765**		**290.0078**				**290.3590**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	66.2143					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	0.7369	4.7445	3.7678	5.9400e-003		0.3932	0.3932		0.3932	0.3932		562.8961				564.2897
Total	**66.9512**	**4.7445**	**3.7678**	**5.9400e-003**		**0.3932**	**0.3932**		**0.3932**	**0.3932**		**562.8961**				**564.2897**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Worker	0.1158	0.1554	1.6284	3.4300e-003	0.2794	2.6400e-003	0.2821	0.0741	2.4300e-003	0.0765		290.0078				290.3590
Total	**0.1158**	**0.1554**	**1.6284**	**3.4300e-003**	**0.2794**	**2.6400e-003**	**0.2821**	**0.0741**	**2.4300e-003**	**0.0765**		**290.0078**				**290.3590**

3.9 Landscape Improvements - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9093	9.4624	7.6048	0.0103		0.6661	0.6661		0.6128	0.6128		1,070.2582				1,077.0376
Total	**0.9093**	**9.4624**	**7.6048**	**0.0103**		**0.6661**	**0.6661**		**0.6128**	**0.6128**		**1,070.2582**				**1,077.0376**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Vendor	0.0930	0.8971	1.2378	2.1800e-003	0.0624	0.0138	0.0762	0.0177	0.0127	0.0305		218.3921				218.4270
Worker	0.1853	0.2486	2.6055	5.4900e-003	0.4471	4.2300e-003	0.4513	0.1186	3.8900e-003	0.1225		464.0124				464.5744
Total	**0.2783**	**1.1457**	**3.8433**	**7.6700e-003**	**0.5095**	**0.0181**	**0.5275**	**0.1363**	**0.0166**	**0.1529**		**682.4046**				**683.0015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9093	9.4624	7.6048	0.0103		0.6661	0.6661		0.6128	0.6128		1,070.2582				1,077.0376
Total	**0.9093**	**9.4624**	**7.6048**	**0.0103**		**0.6661**	**0.6661**		**0.6128**	**0.6128**		**1,070.2582**				**1,077.0376**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000				0.0000
Vendor	0.0930	0.8971	1.2378	2.1800e-003	0.0624	0.0138	0.0762	0.0177	0.0127	0.0305		218.3921				218.4270
Worker	0.1853	0.2486	2.6055	5.4900e-003	0.4471	4.2300e-003	0.4513	0.1186	3.8900e-003	0.1225		464.0124				464.5744
Total	**0.2783**	**1.1457**	**3.8433**	**7.6700e-003**	**0.5095**	**0.0181**	**0.5275**	**0.1363**	**0.0166**	**0.1529**		**682.4046**				**683.0015**

Relocation of Torrance Costco Phase II Construction

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	75.00	1000sqft	1.72	75,000.00	0
Free-Standing Discount Superstore	0.00	1000sqft	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2014
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Phase II Construction (75,00 sq ft Medical Office).

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific

Off-road Equipment - Place Holder

Off-road Equipment - Site Specific for Phase I

Trips and VMT - Site Specific

Grading - Site Specific for Phase II

Vehicle Trips - Site Specific

Construction Off-road Equipment Mitigation - Site Specific

Architectural Coating -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	112500	352500
tblConstructionPhase	NumDays	10.00	55.00
tblConstructionPhase	NumDays	200.00	228.00
tblConstructionPhase	NumDays	4.00	22.00
tblConstructionPhase	NumDays	2.00	1.00
tblConstructionPhase	PhaseEndDate	3/2/2018	12/15/2017
tblConstructionPhase	PhaseEndDate	2/2/2016	1/31/2017
tblConstructionPhase	PhaseEndDate	12/29/2017	12/31/2017
tblConstructionPhase	PhaseStartDate	12/16/2017	10/1/2017
tblConstructionPhase	PhaseStartDate	1/2/2016	1/1/2017
tblGrading	AcresOfGrading	0.00	5.00
tblGrading	AcresOfGrading	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	880.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,280.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	12.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	25.00	40.00
tblTripsAndVMT	WorkerTripNumber	24.00	100.00
tblTripsAndVMT	WorkerTripNumber	5.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	35.9857	34.4106	33.0911	0.0609	1.7586	2.0422	3.8007	0.4715	1.9269	2.3984		5,700.3475	5,700.3475	0.7671		5,716.4560

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	35.9857	34.4106	33.0911	0.0609	1.7586	2.0422	3.8007	0.4715	1.9269	2.3984		5,700.3475	5,700.3475	0.7671		5,716.4560

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	45.81	0.00	35.53	33.45	0.00	11.76	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
2	Building Foundation	Grading	1/1/2017	1/31/2017	5	22	
3	Building Construction	Building Construction	2/1/2017	12/15/2017	5	228	
4	Architectural Coating	Architectural Coating	10/1/2017	12/15/2017	5	55	
5	Paving	Paving	12/16/2017	12/31/2017	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 112,500; Non-Residential Outdoor: 37,500 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Foundation	Cement and Mortar Mixers	2	8.00	9	0.56
Building Foundation	Concrete/Industrial Saws	2	8.00	81	0.73
Building Foundation	Excavators	0	8.00	162	0.38
Building Foundation	Graders	0	8.00	174	0.41
Building Foundation	Plate Compactors	4	8.00	8	0.43
Building Foundation	Rubber Tired Dozers	0	8.00	255	0.40
Building Foundation	Rubber Tired Dozers	0	8.00	255	0.40
Building Foundation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Foundation	Welders	2	8.00	46	0.45
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Foundation	10	40.00	10.00	880.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	100.00	30.00	2,280.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	25.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	40.00	10.00	100.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.3 Building Foundation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2410	0.0000	0.2410	0.0260	0.0000	0.0260			0.0000			0.0000
Off-Road	2.4415	13.7459	12.7822	0.0210		0.9372	0.9372		0.9372	0.9372		1,839.2349	1,839.2349	0.2189		1,843.8320
Total	**2.4415**	**13.7459**	**12.7822**	**0.0210**	**0.2410**	**0.9372**	**1.1782**	**0.0260**	**0.9372**	**0.9632**		**1,839.2349**	**1,839.2349**	**0.2189**		**1,843.8320**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.7022	10.6605	8.8980	0.0298	0.6967	0.1520	0.8487	0.1908	0.1398	0.3306		2,954.8918	2,954.8918	0.0221		2,955.3563
Vendor	0.0846	0.8173	1.1741	2.1800e-003	0.0624	0.0123	0.0747	0.0178	0.0113	0.0291		214.9006	214.9006	1.6100e-003		214.9345
Worker	0.1662	0.2249	2.3511	5.4800e-003	0.4471	4.0500e-003	0.4512	0.1186	3.7300e-003	0.1223		446.6142	446.6142	0.0247		447.1336
Total	**0.9530**	**11.7027**	**12.4232**	**0.0375**	**1.2062**	**0.1684**	**1.3746**	**0.3271**	**0.1549**	**0.4820**		**3,616.4066**	**3,616.4066**	**0.0485**		**3,617.4243**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0940	0.0000	0.0940	0.0102	0.0000	0.0102			0.0000			0.0000
Off-Road	2.4415	13.7459	12.7822	0.0210		0.9372	0.9372		0.9372	0.9372		1,839.2349	1,839.2349	0.2189		1,843.8320
Total	**2.4415**	**13.7459**	**12.7822**	**0.0210**	**0.0940**	**0.9372**	**1.0312**	**0.0102**	**0.9372**	**0.9473**		**1,839.2349**	**1,839.2349**	**0.2189**		**1,843.8320**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.7022	10.6605	8.8980	0.0298	0.6967	0.1520	0.8487	0.1908	0.1398	0.3306		2,954.8918	2,954.8918	0.0221		2,955.3563
Vendor	0.0846	0.8173	1.1741	2.1800e-003	0.0624	0.0123	0.0747	0.0178	0.0113	0.0291		214.9006	214.9006	1.6100e-003		214.9345
Worker	0.1662	0.2249	2.3511	5.4800e-003	0.4471	4.0500e-003	0.4512	0.1186	3.7300e-003	0.1223		446.6142	446.6142	0.0247		447.1336

Total	**0.9530**	**11.7027**	**12.4232**	**0.0375**	**1.2062**	**0.1684**	**1.3746**	**0.3271**	**0.1549**	**0.4820**		**3,616.4066**	**3,616.4066**	**0.0485**		**3,617.4243**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1755	2.6651	2.2245	7.4500e-003	0.1742	0.0380	0.2122	0.0477	0.0350	0.0827		738.7230	738.7230	5.5300e-003		738.8391
Vendor	0.2539	2.4520	3.5222	6.5400e-003	0.1872	0.0369	0.2241	0.0533	0.0340	0.0872		644.7019	644.7019	4.8300e-003		644.8034
Worker	0.4155	0.5622	5.8777	0.0137	1.1178	0.0101	1.1279	0.2964	9.3400e-003	0.3058		1,116.5354	1,116.5354	0.0618		1,117.8339
Total	**0.8449**	**5.6793**	**11.6244**	**0.0277**	**1.4791**	**0.0851**	**1.5642**	**0.3974**	**0.0783**	**0.4757**		**2,499.9603**	**2,499.9603**	**0.0722**		**2,501.4764**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1755	2.6651	2.2245	7.4500e-003	0.1742	0.0380	0.2122	0.0477	0.0350	0.0827		738.7230	738.7230	5.5300e-003		738.8391
Vendor	0.2539	2.4520	3.5222	6.5400e-003	0.1872	0.0369	0.2241	0.0533	0.0340	0.0872		644.7019	644.7019	4.8300e-003		644.8034
Worker	0.4155	0.5622	5.8777	0.0137	1.1178	0.0101	1.1279	0.2964	9.3400e-003	0.3058		1,116.5354	1,116.5354	0.0618		1,117.8339

Total	**0.8449**	**5.6793**	**11.6244**	**0.0277**	**1.4791**	**0.0851**	**1.5642**	**0.3974**	**0.0783**	**0.4757**		**2,499.9603**	**2,499.9603**	**0.0722**		**2,501.4764**

3.5 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	31.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**31.9346**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1039	0.1405	1.4694	3.4300e-003	0.2794	2.5300e-003	0.2820	0.0741	2.3300e-003	0.0764		279.1339	279.1339	0.0155		279.4585
Total	**0.1039**	**0.1405**	**1.4694**	**3.4300e-003**	**0.2794**	**2.5300e-003**	**0.2820**	**0.0741**	**2.3300e-003**	**0.0764**		**279.1339**	**279.1339**	**0.0155**		**279.4585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	31.6023					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**31.9346**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1039	0.1405	1.4694	3.4300e-003	0.2794	2.5300e-003	0.2820	0.0741	2.3300e-003	0.0764		279.1339	279.1339	0.0155		279.4585

Total	**0.1039**	**0.1405**	**1.4694**	**3.4300e-003**	**0.2794**	**2.5300e-003**	**0.2820**	**0.0741**	**2.3300e-003**	**0.0764**		**279.1339**	**279.1339**	**0.0155**		**279.4585**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473		2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9074**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**		**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1755	2.6651	2.2245	7.4500e-003	0.1742	0.0380	0.2122	0.0477	0.0350	0.0827		738.7230	738.7230	5.5300e-003		738.8391
Vendor	0.0846	0.8173	1.1741	2.1800e-003	0.0624	0.0123	0.0747	0.0178	0.0113	0.0291		214.9006	214.9006	1.6100e-003		214.9345
Worker	0.1662	0.2249	2.3511	5.4800e-003	0.4471	4.0500e-003	0.4512	0.1186	3.7300e-003	0.1223		446.6142	446.6142	0.0247		447.1336
Total	**0.4264**	**3.7073**	**5.7497**	**0.0151**	**0.6837**	**0.0544**	**0.7380**	**0.1840**	**0.0500**	**0.2340**		**1,400.2378**	**1,400.2378**	**0.0319**		**1,400.9071**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9074	20.2964	14.7270	0.0223		1.1384	1.1384		1.0473	1.0473		2,281.0588	2,281.0588	0.6989		2,295.7360
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9074**	**20.2964**	**14.7270**	**0.0223**		**1.1384**	**1.1384**		**1.0473**	**1.0473**		**2,281.0588**	**2,281.0588**	**0.6989**		**2,295.7360**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1755	2.6651	2.2245	7.4500e-003	0.1742	0.0380	0.2122	0.0477	0.0350	0.0827		738.7230	738.7230	5.5300e-003		738.8391
Vendor	0.0846	0.8173	1.1741	2.1800e-003	0.0624	0.0123	0.0747	0.0178	0.0113	0.0291		214.9006	214.9006	1.6100e-003		214.9345
Worker	0.1662	0.2249	2.3511	5.4800e-003	0.4471	4.0500e-003	0.4512	0.1186	3.7300e-003	0.1223		446.6142	446.6142	0.0247		447.1336

Total	**0.4264**	**3.7073**	**5.7497**	**0.0151**	**0.6837**	**0.0544**	**0.7380**	**0.1840**	**0.0500**	**0.2340**		**1,400.2378**	**1,400.2378**	**0.0319**		**1,400.9071**

						CALEEMOD SCALAR		
	tsf	ADT	wkday	sat	sun	wk	sat	sun
Costco	161.5	7516	46.98	56.65	49.62	53.13	64.07	56.12
Medical	75	2852	38.03	9.43	1.63	36.13	8.96	1.55
Existing Costco	148	6964	47.05	56.74	49.70	53.13	64.07	56.12
Free-Standing Discount Store	148	6186	41.80	50.40	44.15	53.13	64.07	56.12

Relocation of Torrance Costco (Buildout) Project Site

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	75.00	1000sqft	1.72	75,000.00	0
Free-Standing Discount Superstore	161.50	1000sqft	3.67	161,5000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Trips - Site Specific

Construction Phase -

Grading -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	64.07	56.65
tblVehicleTrips	ST_TR	8.96	9.43
tblVehicleTrips	SU_TR	56.12	49.62
tblVehicleTrips	SU_TR	1.55	1.63
tblVehicleTrips	WD_TR	53.13	46.98
tblVehicleTrips	WD_TR	36.13	38.03

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.1474	2.3000e-004	0.0243	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005						0.0544
Energy	0.0309	0.2813	0.2363	1.6900e-003		0.0214	0.0214		0.0214	0.0214						339.6046
Mobile	36.2749	82.2225	339.6912	0.7732	52.1649	1.1573	53.3222	13.9496	1.0664	15.0160						64,177.8393
Total	**42.4533**	**82.5040**	**339.9518**	**0.7749**	**52.1649**	**1.1788**	**53.3437**	**13.9496**	**1.0878**	**15.0374**						**64,517.4983**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.1474	2.3000e-004	0.0243	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005						0.0544
Energy	0.0309	0.2813	0.2363	1.6900e-003		0.0214	0.0214		0.0214	0.0214						339.6046
Mobile	36.2749	82.2225	339.6912	0.7732	52.1649	1.1573	53.3222	13.9496	1.0664	15.0160						64,177.8393
Total	**42.4533**	**82.5040**	**339.9518**	**0.7749**	**52.1649**	**1.1788**	**53.3437**	**13.9496**	**1.0878**	**15.0374**						**64,517.4983**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	36.2749	82.2225	339.6912	0.7732	52.1649	1.1573	53.3222	13.9496	1.0664	15.0160						64,177.8393
Unmitigated	36.2749	82.2225	339.6912	0.7732	52.1649	1.1573	53.3222	13.9496	1.0664	15.0160						64,177.8393

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Superstore	7,516.80	9,064.00	7939.20	14,766,153	14,766,153
Medical Office Building	2,852.25	707.25	122.25	5,591,896	5,591,896
Total	10,369.05	9,771.25	8,061.45	20,358,049	20,358,049

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Free-Standing Discount	16.60	8.40	6.90	13.20	67.80	19.00	47.5	35.5	17
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.531767	0.058060	0.178534	0.124864	0.038964	0.006284	0.016861	0.033134	0.002486	0.003151	0.003685	0.000540	0.001671

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0309	0.2813	0.2363	1.6900e-003		0.0214	0.0214		0.0214	0.0214						339.6046
NaturalGas Unmitigated	0.0309	0.2813	0.2363	1.6900e-003		0.0214	0.0214		0.0214	0.0214						339.6046

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Free-Standing Discount Superstore	898.63	9.6900e-003	0.0881	0.0740	5.3000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003						106.3646
Medical Office Building	1970.55	0.0213	0.1932	0.1623	1.1600e-003		0.0147	0.0147		0.0147	0.0147						233.2400
Total		**0.0309**	**0.2813**	**0.2363**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**						**339.6046**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Medical Office Building	1.97055	0.0213	0.1932	0.1623	1.1600e-003		0.0147	0.0147		0.0147	0.0147						233.2400
Free-Standing Discount Superstore	0.89863	9.6900e-003	0.0881	0.0740	5.3000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003						106.3646
Total		**0.0309**	**0.2813**	**0.2363**	**1.6900e-003**		**0.0214**	**0.0214**		**0.0214**	**0.0214**						**339.6046**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.1474	2.3000e-004	0.0243	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005						0.0544
Unmitigated	6.1474	2.3000e-004	0.0243	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005						0.0544

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.4921					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	4.6530					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.3200e-003	2.3000e-004	0.0243	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005						0.0544
Total	**6.1474**	**2.3000e-004**	**0.0243**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**						**0.0544**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.4921					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	4.6530					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.3200e-003	2.3000e-004	0.0243	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005						0.0544
Total	**6.1474**	**2.3000e-004**	**0.0243**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**						**0.0544**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Existing Costco (Year 2018)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Free-Standing Discount Superstore	148.00	1000sqft	3.40	148,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Trips - Site Specific

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	64.07	56.74
tblVehicleTrips	SU_TR	56.12	49.70
tblVehicleTrips	WD_TR	53.13	47.05

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.8716	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343
Energy	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873
Mobile	25.0791	54.2055	227.5727	0.5024	33.7716	0.7551	34.5266	9.0310	0.6957	9.7267						41,693.8777
Total	**28.9597**	**54.2871**	**227.6565**	**0.5029**	**33.7716**	**0.7613**	**34.5329**	**9.0310**	**0.7020**	**9.7329**						**41,792.2992**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

Mitigated	25.0791	54.2055	227.5727	0.5024	33.7716	0.7551	34.5266	9.0310	0.6957	9.7267						41,693.8777
Unmitigated	25.0791	54.2055	227.5727	0.5024	33.7716	0.7551	34.5266	9.0310	0.6957	9.7267						41,693.8777

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Superstore	6,963.40	8,397.52	7355.60	13,679,510	13,679,510
Total	6,963.40	8,397.52	7,355.60	13,679,510	13,679,510

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Free-Standing Discount Superstore	16.60	8.40	6.90	13.20	67.80	19.00	47.5	35.5	17

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.531767	0.058060	0.178534	0.124864	0.038964	0.006284	0.016861	0.033134	0.002486	0.003151	0.003685	0.000540	0.001671

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873
NaturalGas Unmitigated	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Free-Standing Discount Superstore	831.233	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873
Total		**8.9600e-003**	**0.0815**	**0.0685**	**4.9000e-004**		**6.1900e-003**	**6.1900e-003**		**6.1900e-003**	**6.1900e-003**						**98.3873**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Free-Standing Discount Superstore	0.831233	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873
Total		**8.9600e-003**	**0.0815**	**0.0685**	**4.9000e-004**		**6.1900e-003**	**6.1900e-003**		**6.1900e-003**	**6.1900e-003**						**98.3873**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.8716	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343
Unmitigated	3.8716	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9397					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	2.9304					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.4600e-003	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343
Total	**3.8716**	**1.4000e-004**	**0.0153**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**						**0.0343**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9397					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	2.9304					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.4600e-003	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343
Total	**3.8716**	**1.4000e-004**	**0.0153**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**						**0.0343**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Existing Costco-Discount Club

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Free-Standing Discount Superstore	148.00	1000sqft	3.40	148,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Trips - Site Specific

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	64.07	50.40
tblVehicleTrips	SU_TR	56.12	44.15
tblVehicleTrips	WD_TR	53.13	41.80

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.8716	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343
Energy	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873
Mobile	22.2769	48.1487	202.1443	0.4462	29.9980	0.6707	30.6687	8.0219	0.6180	8.6399						37,035.0976
Total	**26.1574**	**48.2303**	**202.2280**	**0.4467**	**29.9980**	**0.6770**	**30.6749**	**8.0219**	**0.6242**	**8.6461**						**37,133.5191**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Area	3.8716	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343
Energy	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873
Mobile	22.2769	48.1487	202.1443	0.4462	29.9980	0.6707	30.6687	8.0219	0.6180	8.6399						37,035.0976
Total	**26.1574**	**48.2303**	**202.2280**	**0.4467**	**29.9980**	**0.6770**	**30.6749**	**8.0219**	**0.6242**	**8.6461**						**37,133.5191**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	22.2769	48.1487	202.1443	0.4462	29.9980	0.6707	30.6687	8.0219	0.6180	8.6399						37,035.0976
Unmitigated	22.2769	48.1487	202.1443	0.4462	29.9980	0.6707	30.6687	8.0219	0.6180	8.6399						37,035.0976

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Superstore	6,186.40	7,459.20	6534.20	12,152,580	12,152,580
Total	6,186.40	7,459.20	6,534.20	12,152,580	12,152,580

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Free-Standing Discount	16.60	8.40	6.90	13.20	67.80	19.00	47.5	35.5	17

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.531767	0.058060	0.178534	0.124864	0.038964	0.006284	0.016861	0.033134	0.002486	0.003151	0.003685	0.000540	0.001671

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
NaturalGas Mitigated	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873
NaturalGas Unmitigated	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Free-Standing Discount Superstore	831.233	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873
Total		**8.9600e-003**	**0.0815**	**0.0685**	**4.9000e-004**		**6.1900e-003**	**6.1900e-003**		**6.1900e-003**	**6.1900e-003**						**98.3873**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Free-Standing Discount Superstore	0.831233	8.9600e-003	0.0815	0.0685	4.9000e-004		6.1900e-003	6.1900e-003		6.1900e-003	6.1900e-003						98.3873
Total		**8.9600e-003**	**0.0815**	**0.0685**	**4.9000e-004**		**6.1900e-003**	**6.1900e-003**		**6.1900e-003**	**6.1900e-003**						**98.3873**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.8716	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343
Unmitigated	3.8716	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

SubCategory	lb/day										lb/day					
Architectural Coating	0.9397					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	2.9304					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.4600e-003	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343
Total	**3.8716**	**1.4000e-004**	**0.0153**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**						**0.0343**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9397					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	2.9304					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.4600e-003	1.4000e-004	0.0153	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005						0.0343
Total	**3.8716**	**1.4000e-004**	**0.0153**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**						**0.0343**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Relocation of Torrance Costco (Interim Year 2017)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	0.00	1000sqft	0.00	0.00	0
Free-Standing Discount Superstore	161.50	1000sqft	3.67	161,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2017
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Grading of the Project Site and Phase I Construction (161,500 sq ft Costco).

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Trips and VMT - Site Specific

Grading - Site Specific for Phase I

Vehicle Trips - Site Specific

Construction Off-road Equipment Mitigation - Site Specific

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2017
tblTripsAndVMT	HaulingTripNumber	0.00	4,950.00
tblTripsAndVMT	HaulingTripNumber	0.00	350.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,100.00
tblVehicleTrips	ST_TR	64.07	56.65
tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	SU_TR	56.12	49.62
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	WD_TR	53.13	46.98
tblVehicleTrips	WD_TR	36.13	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.1855	1.6000e-004	0.0166	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	1.0000e-004		0.0371
Energy	9.6900e-003	0.0881	0.0740	5.3000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003		105.7212	105.7212	2.0300e-003		106.3646
Mobile	29.1356	62.7018	264.2680	0.5414	36.4468	0.8362	37.2831	9.7460	0.7696	10.5156		46,278.9205	46,278.9205	1.9922		46,320.7556
Total	**33.3308**	**62.7901**	**264.3587**	**0.5419**	**36.4468**	**0.8430**	**37.2898**	**9.7460**	**0.7763**	**10.5223**		**46,384.6767**	**46,384.6767**	**1.9943**		**46,427.1573**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.1855	1.6000e-004	0.0166	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	1.0000e-004		0.0371
Energy	9.6900e-003	0.0881	0.0740	5.3000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003		105.7212	105.7212	2.0300e-003		106.3646
Mobile	29.1356	62.7018	264.2680	0.5414	36.4468	0.8362	37.2831	9.7460	0.7696	10.5156		46,278.9205	46,278.9205	1.9922		46,320.7556
Total	**33.3308**	**62.7901**	**264.3587**	**0.5419**	**36.4468**	**0.8430**	**37.2898**	**9.7460**	**0.7763**	**10.5223**		**46,384.6767**	**46,384.6767**	**1.9943**		**46,427.1573**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.1356	62.7018	264.2680	0.5414	36.4468	0.8362	37.2831	9.7460	0.7696	10.5156		46,278.9205	46,278.9205	1.9922		46,320.7556
Unmitigated	29.1356	62.7018	264.2680	0.5414	36.4468	0.8362	37.2831	9.7460	0.7696	10.5156		46,278.9205	46,278.9205	1.9922		46,320.7556

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Superstore	7,516.80	9,064.00	7939.20	14,766,153	14,766,153
Medical Office Building	0.00	0.00	0.00		
Total	7,516.80	9,064.00	7,939.20	14,766,153	14,766,153

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Free-Standing Discount Superstore	16.60	8.40	6.90	13.20	67.80	19.00	47.5	35.5	17
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.532559	0.058242	0.178229	0.125155	0.038934	0.006273	0.016761	0.032323	0.002478	0.003154	0.003685	0.000544	0.001663

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	9.6900e-003	0.0881	0.0740	5.3000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003		105.7212	105.7212	2.0300e-003		106.3646
NaturalGas Unmitigated	9.6900e-003	0.0881	0.0740	5.3000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003		105.7212	105.7212	2.0300e-003		106.3646

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Medical Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Free-Standing Discount Superstore	898.63	9.6900e-003	0.0881	0.0740	5.3000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003		105.7212	105.7212	2.0300e-003		106.3646
Total		**9.6900e-003**	**0.0881**	**0.0740**	**5.3000e-004**		**6.7000e-003**	**6.7000e-003**		**6.7000e-003**	**6.7000e-003**		**105.7212**	**105.7212**	**2.0300e-003**		**106.3646**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Free-Standing Discount Superstore	0.89863	9.6900e-003	0.0881	0.0740	5.3000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003		105.7212	105.7212	2.0300e-003		106.3646
Medical Office Building	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total		**9.6900e-003**	**0.0881**	**0.0740**	**5.3000e-004**		**6.7000e-003**	**6.7000e-003**		**6.7000e-003**	**6.7000e-003**		**105.7212**	**105.7212**	**2.0300e-003**		**106.3646**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.1855	1.6000e-004	0.0166	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	1.0000e-004		0.0371
Unmitigated	4.1855	1.6000e-004	0.0166	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	1.0000e-004		0.0371

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6100e-003	1.6000e-004	0.0166	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	1.0000e-004		0.0371
Total	**4.1855**	**1.6000e-004**	**0.0166**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0350**	**0.0350**	**1.0000e-004**		**0.0371**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0159					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1680					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.6100e-003	1.6000e-004	0.0166	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.0350	0.0350	1.0000e-004		0.0371
Total	**4.1855**	**1.6000e-004**	**0.0166**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**		**0.0350**	**0.0350**	**1.0000e-004**		**0.0371**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Appendix B

- Greenhouse Gas Worksheets and Model Output
  - CalEEMod Construction Output Files
    - Phase I Construction
    - Phase II Construction
  - CalEEMod Operation Output Files
    - Relocation of Torrance Costco (Buildout) Project Site GHG 2018
    - Existing Costo (2018)
    - Repurposing of Existing Costco Site with Shopping Center (2018)

Relocation of Torrance Costco Construction Phase I

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	0.00	1000sqft	0.00	0.00	0
Free-Standing Discount Superstore	161.500	1000sqft	3.67	161,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2016
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Grading of the Project Site and Phase I Construction (161,500 sq ft Costco).

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Trips and VMT - Site Specific

Grading - Site Specific for Phase I

Architectural Coating -

Vehicle Trips - Site Specific

Construction Off-road Equipment Mitigation - Site Specific

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	240000	352500
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	18.00	56.00
tblConstructionPhase	NumDays	230.00	110.00
tblConstructionPhase	NumDays	8.00	33.00
tblConstructionPhase	NumDays	18.00	7.00
tblConstructionPhase	NumDays	5.00	26.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	3/30/2016	1/18/2016
tblConstructionPhase	PhaseEndDate	8/15/2015	8/16/2015
tblConstructionPhase	PhaseEndDate	1/23/2016	1/18/2016
tblConstructionPhase	PhaseStartDate	1/13/2016	11/1/2015
tblConstructionPhase	PhaseStartDate	1/19/2016	1/13/2016
tblGrading	AcresOfGrading	0.00	10.00
tblGrading	AcresOfGrading	91.00	10.00
tblGrading	MaterialImported	0.00	60,000.00
tblOffRoadEquipment	HorsePower	9.00	162.00
tblOffRoadEquipment	HorsePower	199.00	255.00
tblOffRoadEquipment	LoadFactor	0.56	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.40
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripNumber	7,500.00	4,950.00
tblTripsAndVMT	HaulingTripNumber	0.00	420.00
tblTripsAndVMT	HaulingTripNumber	0.00	350.00
tblTripsAndVMT	HaulingTripNumber	0.00	660.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,100.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	26.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	18.00	40.00
tblTripsAndVMT	WorkerTripNumber	8.00	40.00
tblTripsAndVMT	WorkerTripNumber	18.00	40.00
tblTripsAndVMT	WorkerTripNumber	23.00	40.00
tblTripsAndVMT	WorkerTripNumber	38.00	40.00
tblTripsAndVMT	WorkerTripNumber	51.00	100.00
tblTripsAndVMT	WorkerTripNumber	10.00	25.00
tblTripsAndVMT	WorkerTripNumber	10.00	40.00
tblVehicleTrips	ST_TR	64.07	56.65

tblVehicleTrips	ST_TR	8.96	0.00
tblVehicleTrips	SU_TR	56.12	49.62
tblVehicleTrips	SU_TR	1.55	0.00
tblVehicleTrips	WD_TR	53.13	46.98
tblVehicleTrips	WD_TR	36.13	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	2.1856	6.8127	4.8570	8.8700e-003	0.3485	0.3243	0.6728	0.1418	0.3068	0.4485		798.6980				801.0674
2016	0.4480	0.4041	0.3148	5.5000e-004	0.0169	0.0230	0.0399	4.4000e-003	0.0219	0.0263		47.8924				48.0583
Total	**2.6335**	**7.2167**	**5.1718**	**9.4200e-003**	**0.3654**	**0.3472**	**0.7127**	**0.1462**	**0.3287**	**0.4749**		**846.5904**				**849.1257**

Relocation of Torrance Costco Phase II Construction

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	75.00	1000sqft	1.72	75,000.00	0
Free-Standing Discount Superstore	0.00	1000sqft	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2014
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Phase II Construction (75,00 sq ft Medical Office).

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific for Phase I

Off-road Equipment - Site Specific

Off-road Equipment - Place Holder

Off-road Equipment - Site Specific for Phase I

Trips and VMT - Site Specific

Grading - Site Specific for Phase II

Vehicle Trips - Site Specific

Construction Off-road Equipment Mitigation - Site Specific

Architectural Coating -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	112500	352500
tblConstructionPhase	NumDays	10.00	55.00
tblConstructionPhase	NumDays	200.00	228.00
tblConstructionPhase	NumDays	4.00	22.00
tblConstructionPhase	NumDays	2.00	1.00
tblConstructionPhase	PhaseEndDate	3/2/2018	12/15/2017
tblConstructionPhase	PhaseEndDate	2/2/2016	1/31/2017
tblConstructionPhase	PhaseEndDate	12/29/2017	12/31/2017
tblConstructionPhase	PhaseStartDate	12/16/2017	10/1/2017
tblConstructionPhase	PhaseStartDate	1/2/2016	1/1/2017
tblGrading	AcresOfGrading	0.00	5.00
tblGrading	AcresOfGrading	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	880.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,280.00
tblTripsAndVMT	HaulingTripNumber	0.00	100.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	12.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	25.00	40.00
tblTripsAndVMT	WorkerTripNumber	24.00	100.00
tblTripsAndVMT	WorkerTripNumber	5.00	25.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	1.3755	4.1370	3.8510	7.2500e-003	0.1920	0.2357	0.4277	0.0513	0.2219	0.2732		619.2390	619.2390	0.0818		620.9558
Total	**1.3755**	**4.1370**	**3.8510**	**7.2500e-003**	**0.1946**	**0.2357**	**0.4303**	**0.0515**	**0.2219**	**0.2735**		**619.2390**	**619.2390**	**0.0818**		**620.9558**

Relocation of Torrance Costco (Buildout) Modified Project Site

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	75.00	1000sqft	1.72	75,000.00	0
Free-Standing Discount Superstore	161.50	1000sqft	3.67	161,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Grading -

Vehicle Trips - Site Specific

Construction Off-road Equipment Mitigation -

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	64.07	56.65
tblVehicleTrips	ST_TR	8.96	9.43
tblVehicleTrips	SU_TR	56.12	49.62
tblVehicleTrips	SU_TR	1.55	1.63
tblVehicleTrips	WD_TR	53.13	46.98
tblVehicleTrips	WD_TR	36.13	38.03

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1218	3.0000e-005	3.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						6.1700e-003
Energy	5.6500e-003	0.0513	0.0431	3.1000e-004		3.9000e-003	3.9000e-003		3.9000e-003	3.9000e-003						1,852.9686

Mobile	5.1855	12.6507	51.2080	0.1181	7.7172	0.1739	7.8911	2.0670	0.1603	2.2273						8,886.8978
Waste						0.0000	0.0000		0.0000	0.0000						681.5140
Water						0.0000	0.0000		0.0000	0.0000						237.0304
Total	**6.3129**	**12.7021**	**51.2542**	**0.1184**	**7.7172**	**0.1778**	**7.8950**	**2.0670**	**0.1642**	**2.2312**						**11,658.4170**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1218	3.0000e-005	3.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						6.1700e-003
Energy	4.9700e-003	0.0452	0.0380	2.7000e-004		3.4300e-003	3.4300e-003		3.4300e-003	3.4300e-003						1,645.2269
Mobile	5.1855	12.6507	51.2080	0.1181	7.7172	0.1739	7.8911	2.0670	0.1603	2.2273						8,886.8978
Waste						0.0000	0.0000		0.0000	0.0000						681.5140
Water						0.0000	0.0000		0.0000	0.0000						185.3341
Total	**6.3122**	**12.6959**	**51.2490**	**0.1184**	**7.7172**	**0.1774**	**7.8945**	**2.0670**	**0.1637**	**2.2307**						**11,398.9789**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.01**	**0.05**	**0.01**	**0.03**	**0.00**	**0.26**	**0.01**	**0.00**	**0.29**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.23**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1855	12.6507	51.2080	0.1181	7.7172	0.1739	7.8911	2.0670	0.1603	2.2273						8,886.8978
Unmitigated	5.1855	12.6507	51.2080	0.1181	7.7172	0.1739	7.8911	2.0670	0.1603	2.2273						8,886.8978

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Superstore	7,516.80	9,064.00	7939.20	14,766,153	14,766,153
Medical Office Building	2,852.25	707.25	122.25	5,591,896	5,591,896
Total	10,369.05	9,771.25	8,061.45	20,358,049	20,358,049

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

Free-Standing Discount	16.60	8.40	6.90	13.20	67.80	19.00	47.5	35.5	17
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.531767	0.058060	0.178534	0.124864	0.038964	0.006284	0.016861	0.033134	0.002486	0.003151	0.003685	0.000540	0.001671

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						1,595.7502
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						1,796.7432
NaturalGas Mitigated	4.9700e-003	0.0452	0.0380	2.7000e-004		3.4300e-003	3.4300e-003		3.4300e-003	3.4300e-003						49.4767
NaturalGas Unmitigated	5.6500e-003	0.0513	0.0431	3.1000e-004		3.9000e-003	3.9000e-003		3.9000e-003	3.9000e-003						56.2254

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Free-Standing Discount Superstore	328000	1.7700e-003	0.0161	0.0135	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003						17.6099
Medical Office Building	719250	3.8800e-003	0.0353	0.0296	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003						38.6155
Total		**5.6500e-003**	**0.0513**	**0.0431**	**3.1000e-004**		**3.9000e-003**	**3.9000e-003**		**3.9000e-003**	**3.9000e-003**						**56.2254**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Medical Office Building	617550	3.3300e-003	0.0303	0.0254	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003						33.1554
Free-Standing Discount Superstore	304000	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						16.3213
Total		**4.9700e-003**	**0.0452**	**0.0380**	**2.7000e-004**		**3.4300e-003**	**3.4300e-003**		**3.4300e-003**	**3.4300e-003**						**49.4767**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Free-Standing Discount Superstore	2.048e+006				1,142.9508
Medical Office Building	1.1715e+006				653.7924
Total					**1,796.7432**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Free-Standing Discount Superstore	1.808e+006				1,009.0113
Medical Office Building	1.05135e+006				586.7389
Total					**1,595.7502**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1218	3.0000e-005	3.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						6.1700e-003
Unmitigated	1.1218	3.0000e-005	3.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						6.1700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2723					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.8492					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.9000e-004	3.0000e-005	3.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						6.1700e-003
Total	**1.1218**	**3.0000e-005**	**3.0400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**6.1700e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2723					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.8492					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.9000e-004	3.0000e-005	3.0400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						6.1700e-003
Total	**1.1218**	**3.0000e-005**	**3.0400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**6.1700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				185.3341
Unmitigated				237.0304

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Free-Standing Discount Superstore	11.8516 / 7.26389				145.8578
Medical Office Building	9.41104 / 1.79258				91.1727
Total					**237.0304**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Free-Standing Discount Superstore	9.48128 / 5.81111				114.2949
Medical Office Building	7.52883 / 1.43406				71.0392

Total				**185.3341**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				681.5140
Unmitigated				681.5140

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Free-Standing Discount Superstore	688.11				313.0321
Medical Office Building	810				368.4818
Total					**681.5140**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Free-Standing Discount Superstore	688.11				313.0321
Medical Office Building	810				368.4818
Total					**681.5140**

9.0 Operational Offroad

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

10.0 Vegetation

Existing Costco Site (2018)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Free-Standing Discount Superstore	148.00	1000sqft	3.40	148,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Trips - Site Specific

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	64.07	56.74
tblVehicleTrips	SU_TR	56.12	49.70
tblVehicleTrips	WD_TR	53.13	47.05

2.0 Emissions Summary

2.1 Overall Construction

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7065	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003
Energy	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						1,073.5186
Mobile	3.6942	8.6410	35.4484	0.0796	5.1855	0.1177	5.3032	1.3889	0.1084	1.4973						5,990.7680
Waste						0.0000	0.0000		0.0000	0.0000						289.5539
Water						0.0000	0.0000		0.0000	0.0000						134.9184
Total	**4.4023**	**8.6559**	**35.4628**	**0.0797**	**5.1855**	**0.1188**	**5.3043**	**1.3889**	**0.1096**	**1.4985**						**7,488.7629**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7065	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003
Energy	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						1,073.5186
Mobile	3.6942	8.6410	35.4484	0.0796	5.1855	0.1177	5.3032	1.3889	0.1084	1.4973						5,990.7680
Waste						0.0000	0.0000		0.0000	0.0000						289.5539
Water						0.0000	0.0000		0.0000	0.0000						134.9129
Total	**4.4023**	**8.6559**	**35.4628**	**0.0797**	**5.1855**	**0.1188**	**5.3043**	**1.3889**	**0.1096**	**1.4985**						**7,488.7573**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6942	8.6410	35.4484	0.0796	5.1855	0.1177	5.3032	1.3889	0.1084	1.4973						5,990.7680
Unmitigated	3.6942	8.6410	35.4484	0.0796	5.1855	0.1177	5.3032	1.3889	0.1084	1.4973						5,990.7680

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Superstore	6,963.40	8,397.52	7355.60	13,679,510	13,679,510
Total	6,963.40	8,397.52	7,355.60	13,679,510	13,679,510

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Free-Standing Discount	16.60	8.40	6.90	13.20	67.80	19.00	47.5	35.5	17

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.531767	0.058060	0.178534	0.124864	0.038964	0.006284	0.016861	0.033134	0.002486	0.003151	0.003685	0.000540	0.001671

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						1,057.2295
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						1,057.2295
NaturalGas Mitigated	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						16.2891
NaturalGas Unmitigated	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						16.2891

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Free-Standing Discount Superstore	303400	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						16.2891
Total		**1.6400e-003**	**0.0149**	**0.0125**	**9.0000e-005**		**1.1300e-003**	**1.1300e-003**		**1.1300e-003**	**1.1300e-003**						**16.2891**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Free-Standing Discount Superstore	303400	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						16.2891
Total		**1.6400e-003**	**0.0149**	**0.0125**	**9.0000e-005**		**1.1300e-003**	**1.1300e-003**		**1.1300e-003**	**1.1300e-003**						**16.2891**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Free-Standing Discount Superstore	1.8944e+006				1,057.2295
Total					**1,057.2295**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Free-Standing Discount Superstore	1.8944e+006				1,057.2295
Total					**1,057.2295**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7065	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003
Unmitigated	0.7065	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1715					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.5348					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.8000e-004	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003
Total	**0.7065**	**2.0000e-005**	**1.9100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**3.8800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1715					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.5348					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.8000e-004	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003

Total	**0.7065**	**2.0000e-005**	**1.9100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**3.8800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				134.9129
Unmitigated				134.9184

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Free-Standing Discount Superstore	10.9627 / 6.71909				134.9184
Total					**134.9184**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Free-Standing Discount Superstore	10.9627 / 6.71909				134.9129
Total					**134.9129**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				289.5539

Unmitigated				289.5539

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Free-Standing Discount Superstore	636.5				289.5539
Total					**289.5539**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Free-Standing Discount Superstore	636.5				289.5539
Total					**289.5539**

9.0 Operational Offroad

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

10.0 Vegetation

Existing Costco-Discount Club

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Free-Standing Discount Superstore	148.00	1000sqft	3.40	148,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2018
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Vehicle Trips - Site Specific

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	64.07	50.40
tblVehicleTrips	SU_TR	56.12	44.15
tblVehicleTrips	WD_TR	53.13	41.80

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7065	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003
Energy	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						1,073.5186
Mobile	3.2818	7.6765	31.4916	0.0707	4.6067	0.1045	4.7112	1.2339	0.0963	1.3302						5,322.0686
Waste						0.0000	0.0000		0.0000	0.0000						289.5539
Water						0.0000	0.0000		0.0000	0.0000						134.9184
Total	**3.9899**	**7.6913**	**31.5060**	**0.0708**	**4.6067**	**0.1057**	**4.7124**	**1.2339**	**0.0975**	**1.3313**						**6,820.0635**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7065	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003
Energy	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						1,073.5186
Mobile	3.2818	7.6765	31.4916	0.0707	4.6067	0.1045	4.7112	1.2339	0.0963	1.3302						5,322.0686
Waste						0.0000	0.0000		0.0000	0.0000						289.5539
Water						0.0000	0.0000		0.0000	0.0000						134.9129
Total	**3.9899**	**7.6913**	**31.5060**	**0.0708**	**4.6067**	**0.1057**	**4.7124**	**1.2339**	**0.0975**	**1.3313**						**6,820.0579**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.2818	7.6765	31.4916	0.0707	4.6067	0.1045	4.7112	1.2339	0.0963	1.3302						5,322.0686
Unmitigated	3.2818	7.6765	31.4916	0.0707	4.6067	0.1045	4.7112	1.2339	0.0963	1.3302						5,322.0686

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Superstore	6,186.40	7,459.20	6534.20	12,152,580	12,152,580
Total	6,186.40	7,459.20	6,534.20	12,152,580	12,152,580

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Free-Standing Discount	16.60	8.40	6.90	13.20	67.80	19.00	47.5	35.5	17

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.531767	0.058060	0.178534	0.124864	0.038964	0.006284	0.016861	0.033134	0.002486	0.003151	0.003685	0.000540	0.001671

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						1,057.2295
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						1,057.2295
NaturalGas Mitigated	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						16.2891
NaturalGas Unmitigated	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						16.2891

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Free-Standing Discount Superstore	303400	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						16.2891
Total		**1.6400e-003**	**0.0149**	**0.0125**	**9.0000e-005**		**1.1300e-003**	**1.1300e-003**		**1.1300e-003**	**1.1300e-003**						**16.2891**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Free-Standing Discount Superstore	303400	1.6400e-003	0.0149	0.0125	9.0000e-005		1.1300e-003	1.1300e-003		1.1300e-003	1.1300e-003						16.2891
Total		**1.6400e-003**	**0.0149**	**0.0125**	**9.0000e-005**		**1.1300e-003**	**1.1300e-003**		**1.1300e-003**	**1.1300e-003**						**16.2891**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Free-Standing Discount Superstore	1.8944e+006				1,057.2295
Total					**1,057.2295**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Free-Standing Discount Superstore	1.8944e+006				1,057.2295
Total					**1,057.2295**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7065	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003
Unmitigated	0.7065	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1715					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.5348					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.8000e-004	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003
Total	**0.7065**	**2.0000e-005**	**1.9100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**3.8800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1715					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.5348					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.8000e-004	2.0000e-005	1.9100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						3.8800e-003

Total	**0.7065**	**2.0000e-005**	**1.9100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**3.8800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				134.9129
Unmitigated				134.9184

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Free-Standing Discount Superstore	10.9627 / 6.71909				134.9184
Total					**134.9184**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Free-Standing Discount Superstore	10.9627 / 6.71909				134.9129
Total					**134.9129**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				289.5539

Unmitigated				289.5539

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Free-Standing Discount Superstore	636.5				289.5539
Total					**289.5539**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Free-Standing Discount Superstore	636.5				289.5539
Total					**289.5539**

9.0 Operational Offroad

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

10.0 Vegetation