APPENDIX 9.1-1

Supplemental Air Quality and Greenhouse Gas Analysis

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TECHNICAL MEMORANDUM

To:	Jacumba Solar LLC
From:	David Deckman, Director of Air Quality Services
	Jennifer Longabaugh, Air Quality Analyst
Subject:	Supplemental Air Quality and Greenhouse Gas Analysis
Date:	July 17, 2015
Attachment:	1 – Mobile GHG Emission Estimates – Year 2030 and 2050

1.0 INTRODUCTION

This memorandum provides information regarding decommissioning impacts and the project's consistency with Executive Order B-30-15 and S-3-05. During the public review comment period for the Draft EIR, public comments were received seeking clarification regarding secondary impacts that may occur from the implementation of the mitigation measure M-AE-3 to decommission the solar facility. I am providing the following analysis of that activity as an expert in my field. This analysis does not change the conclusions regarding the level of significance of the prior analysis of Air Quality included in the Draft EIR. This memorandum analyzes the potential of implementing M-AE-3 to have a significant environmental impact related to air quality and greenhouse gas (GHG) emissions, and concludes that it would be consistent with the conclusions of the Draft EIR prepared and circulated for the development of the Proposed Project.

2.0 REGULATORY SETTING

Executive Orders S-3-05 and B-30-15

Executive Order S-3-05. In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: statewide GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80% below 1990 levels by 2050. The California Environmental Protection Agency (EPA) secretary is required to coordinate efforts of various agencies to collectively and efficiently reduce GHGs. The Climate Action Team is responsible for implementing global warming emissions reduction programs. Representatives from several state agencies comprise the Climate

Action Team. The Climate Action Team fulfilled its report requirements through the March 2006 Climate Action Team Report to the governor and the legislature (CAT 2006).

The 2009 *Climate Action Team Biennial Report* (CAT 2010b), published in April 2010, expands on the policy outlined in the 2006 assessment. The 2009 report provides new information and scientific findings regarding the development of new climate and sea level projections using new information and tools that have recently become available and evaluates climate change within the context of broader social changes, such as land use changes and demographics. The 2009 report also identifies the need for additional research in several different aspects that affect climate change in order to support effective climate change strategies. The aspects of climate change determined to require future research include vehicle and fuel technologies, land use and smart growth, electricity and natural gas, energy efficiency, renewable energy and reduced carbon energy sources, low GHG technologies for other sectors, carbon sequestration, terrestrial sequestration, geologic sequestration, economic impacts and considerations, social science, and environmental justice.

Subsequently, the 2010 *Climate Action Team Report to Governor Schwarzenegger and the California Legislature* (CAT 2010a) reviews past climate action milestones including voluntary reporting programs, GHG standards for passenger vehicles, the Low Carbon Fuel Standard (LCFS), a statewide renewable energy standard, and the cap-and-trade program. Additionally, the 2010 report includes a cataloguing of recent research and ongoing projects; mitigation and adaptation strategies identified by sector (e.g., agriculture, biodiversity, electricity, and natural gas); actions that can be taken at the regional, national, and international levels to mitigate the adverse effects of climate change; and today's outlook on future conditions.

Executive Order B-30-15. On April 29, 2015, Governor Jerry Brown issued an executive order which identified an interim GHG reduction target in support of targets previously identified under Executive Order S-3-05 and Assembly Bill (AB) 32. Executive Order B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in Executive Order S-3-05. To facilitate achievement of this goal, Executive Order B-30-15 calls for an update to the California Air Resources Board's (CARB's) Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. The Executive Order also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water and forestry will be required to prepare GHG reduction plans by September 2015, followed by a report on actions taken in relation to these plans in June 2016. The Executive Order does not establish an interim GHG reduction target or threshold for local agencies. It is important to note that Executive Order B-30-15 was not adopted by a public agency through a public review process that requires analysis pursuant to

California Environmental Quality Act (CEQA) Guidelines section 15064.4 and that it has not been subsequently validated by a statute as an official GHG reduction target of the State of California.[1] The Executive Order itself states it is "not intended to create, and does not, create any rights of benefits, whether substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers employees, or any other person."

3.0 ANALYSIS

Decommissioning Impacts

As stated in Chapter 1, Project Description of the Draft EIR, the expected lifespan of the Proposed Project is estimated to be at least 30 years. Mitigation measure M-AE-3 requires decommissioning of the solar facility to reduce aesthetics impacts.

Decommissioning activities would be expected to result in substantially lower air quality emissions compared to construction activities due to more stringent engine and motor vehicle standards, including Best Available Control Technology (BACT), at the time of decommissioning (e.g., in 30 years all off-road diesel engines are anticipated to meet Tier 4 or better requirements at a minimum and motor vehicles will meet future fuel efficiency and air quality emissions standards). As such, mobile emissions including those generated from construction worker vehicles, vendor trucks, haul trucks and off-road equipment would be reduced as a result of emission regulations and advancements in motor vehicle technology. Due to continual fleet turnover and increased vehicular efficiencies that would be realized over the course of the project's life, mobile emissions would be lower in the year 2046 when decommissioning activities are expected to occur. See Table 1, which illustrates the downward trend in vehicle emissions as a result of vehicle engine efficiency and fleet turnover over time.

Additionally, major criteria pollutant-generating activities that would occur during construction would not occur during decommissioning. These activities include clearing, grubbing and grading activities; gen-tie construction; intensive water importation and distribution on site associated with earth moving, site preparation, mass grading, and concrete mixing; and undergrounding of utility cables. Regarding water demand and associated import, based on the estimates calculated for construction in Table 1-4 of Chapter 1, Project Description of the Draft EIR, general dust abatement would require approximately 8 acre-feet of water. Additional equipment washing and modest compaction needs, if necessary, would require a further approximately 2 acre-feet. The total water demand estimated for decommissioning is

[1] The question of whether an Executive Order can be used to inform a CEQA threshold of significance is the subject of the pending SANDAG case in the Supreme Court.

approximately 10 acre-feet. Moreover, the construction equipment fleet required for decommissioning would not include as many pieces or the same type of equipment as required during construction due to the activities associated with dismantling the facility. Similarly, it is anticipated that the number of construction workers, vendor trips, and haul truck trips necessary to decommission and dismantle the Proposed Project would be less than that required for construction because material deliveries would not be required, though some trips for equipment removal would be necessary, and the need for water import would be greatly reduced.

Therefore, because these major pollutant generating activities would not occur or would be greatly reduced during decommissioning activities, emissions generated during decommissioning are anticipated to be substantially lower than those occurring during construction. As such, the maximum daily construction emissions estimated for the Proposed Project would represent the maximum daily emissions that would occur during any phase of the Proposed Project life, including construction, operation and decommissioning. However, for the purposes of a conservative analysis, it was assumed that decommissioning emissions would equate to emissions estimated for the Proposed Project construction activities. As with the construction emissions, the emissions resulting from decommissioning are expected to be below the County's thresholds for criteria pollutants and impacts would be **less than significant**.

Compliance with Executive Orders B-30-15 and S-3-05

Long Term Project Operations – 2030 and 2050

The GHG reduction targets for 2030 identified in Executive Order B-30-15 and for 2050 identified in Executive Order S-3-05 were not adopted by a public agency through a public review process that requires analysis pursuant to CEQA Guidelines section 15064.4. It is questionable whether an Executive Order creates binding law at all. In fact, Executive Order B-30-15 expressly states it is "not intended to create, and does not, create any rights or benefits, whether substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person." Nevertheless, in order to demonstrate that the project does not interfere with the State's ability to achieve GHG reduction targets identified in Executive Order B-30-15 and S-3-05, a discussion of the project's GHG emissions in 2030 and 2050 is provided.

Executive Order B-30-15 set an interim target of reducing statewide GHG emissions to 40% below 1990 levels by 2030 and directed *State* agencies to implement appropriate plans. The interim target was established to better measure California's progress toward meeting or exceeding the long-term emission reduction target of reducing GHG emissions to 80% below 1990 levels by 2050 pursuant to Executive Order S-3-05. The 1990 emissions level estimated by

the California Air Resources Board (CARB) is 431 Million Metric Tons (MMT) of Carbon Dioxide Equivalent (CO_2E) which represents the 2020 target. Executive Order B-30-15 instructs CARB to similarly express the 2030 target in terms of MMT CO_2E.

CARB has confirmed that the state is well-positioned with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32." (see First Update to Scoping Plan, p. ES2.) With regard to the 2050 target for reducing GHG emissions to 80 percent below 1990 levels, the First Update to the Climate Change Scoping Plan states:

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts [MW] of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80 percent below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

(First Update to the Climate Change Scoping Plan dated May 2014, p. 34.) In other words, CARB believes the State is already on a trajectory to meet the 2020, 2030 and 2050 GHG reduction targets set forth in AB 32, Executive Order B-30-15 and Executive Order S-3-05. CARB also acknowledges that continuing progress to the 2050 objective requires California to maintain and build upon its existing programs, scale up deployment of clean technologies, and provide more low-carbon options to accelerate GHG emission reductions, especially after 2020.

The project does not interfere with implementation of any of the above-described GHG reduction goals for 2030 or 2050. Additionally, the project does not interfere with the state's goal to install 12,000 MW of renewable distributed generation systems by 2020.

To further demonstrate that the project does not interfere with the State's achievement of 2020, 2030 and 2050 GHG reduction goals, Table 1 shows the project's incremental reduction in emissions associated with current standards and regulations. Table 1 reflects emissions as projected in 2030 and 2046 (the year decommissioning is anticipated to occur) using the same project-specific land uses and operational emission source inputs as assumed for the Proposed Project, including mobile sources and water supply. Amortized construction emissions and amortized decommissioning emissions (which were conservatively assumed to equate to the project's construction emissions) are included in the annual emission estimates. Reductions

shown in Table 1 only reflect those associated with motor vehicle emissions due to continual vehicle fleet turnover (increases in engine efficiency and fuel-efficient vehicles) as modeled in CalEEMod for the year 2030, and in CARB's EMFAC2014 emissions model (CARB 2015) for the year 2046. EMFAC 2014 was utilized to estimate mobile source emissions in the year 2046 because CalEEMod only estimates emissions out to the year 2035. Emission factors for the year 2046 were generated using EMFAC 2014 and were inputted into CalEEMod to estimate mobile emissions for the year 2046.

CalEEMod and EMFAC2014 take into account mobile emission regulations and advancements in motor vehicle technology and their effect on emissions in future years. For example, EMFAC2014 accounts for reductions due to the Advanced Clean Car (ACC) Program and the Truck and Bus Regulation "which requires heavy duty vehicles to be retrofit with diesel particulate filters or replaced with trucks having 2007 or 2010 standard engines" (CARB 2015). The model also accounts for the effectiveness of selective catalytic reduction systems on applicable vehicle classes and years (CARB 2015). Additionally, it is reasonable to assume that additional regulations developed to reduce transportation-related GHG emissions would be implemented in the future in response to new regulations developed to meet 2030 and 2050 target reduction goals, similar to the Pavley standards and the Low Carbon Fuel Standard, as well as an expansion of alternative transportation systems.

Table 1
Estimated GHG Emissions (metric tons/year) Buildout, 2030 and 2046

Source	Proposed Project Buildout	Proposed Project 2030[1]	Proposed Project 2046[2]
Motor Vehicles	108	87	55
Water Supply	4	4	4
Amortized Construction Emissions	73	73	73
Amortized Decommissioning Emissions	73	73	73
Total	**258**	**237**	**205**

Source: See Attachment 1 of this document.
1 Mobile emissions estimated using CalEEMod consistent with the methodology for proposed project emissions.
2 Mobile emissions estimated using EMFAC2014 because CalEEMod is not capable of estimating emissions beyond 2035.

As shown in Table 1, GHG emissions would continue to decrease due to improvements in fuel efficiency, fleet turnover, and technological improvements related to transportation. Regulations and initiatives as developed and implemented by CARB and other statewide agencies pursuant to the Scoping Plan, Executive Order B-30-15 and Executive Order S-3-05 related to energy and water supply will reduce emissions in the future, but the full extent of such reductions cannot be fully quantified or estimated at this time utilizing the modeling tools available at this time. GHG-related technological advancements in these sectors will also continue to build upon those currently

employed state-wide and through local initiatives, and would become increasingly more stringent and efficient over time. Regulations and standards pertaining to these sectors include but are not limited to Title 24 building standards, the state's renewable energy portfolio standard, water conservation measures and other statewide initiatives as identified in CARB's Scoping Plan.

Additionally, in January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals which would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a goal to which the project would contribute, and a reduction in vehicle petroleum use for cars and trucks by up to 50%.

Moreover, the project applicant would not actively interfere with any future County-mandated, state-mandated, or federally-mandated retrofit obligations enacted or promulgated to legally require residential development County-wide, state-wide, or nation-wide to assist in meeting state-adopted GHG emissions reduction targets, including those established under Executive Order S-3-05 or Executive Order B-30-15.

Based on the foregoing, the project does not interfere with the state's implementation of (i) AB 32, (ii) Executive Order B-30-15's target of reducing statewide GHG emissions to 40% below 1990 levels by 2030 or (iii) Executive Order S-3-05's target of reducing statewide GHG emissions to 80% below 1990 levels by 2050 because it does not interfere with the state's implementation of GHG reduction plans described in the CARB's Updated Scoping Plan. Additionally, as shown in Table 1, the project's annual average GHG emissions in the year 2030 and 2046 would not exceed the County's 900 MT per year threshold. The Project is consistent with the State's plan that 33% of the energy portfolio be generated by renewable energy (33% RPS). The DEIR discloses that the 33% RPS target is Measure No. E-3 of the State's Climate Change Scoping Plan.

The Project indirectly achieves these goals because solar energy is a clean source of energy generated by a renewable resource (solar rays) instead of the burning of finite fossil fuels the emit GHGs into the air. Without the development of solar and other types of renewable energy in order to meet California's energy demands, greater amounts of power would need to be produced by fossil fuel generation sources to meet the same demand. However, solar projects provide intermittent energy and, without additional technologies, may need to be supplemented with either base load plants or peaker power plants, some of which are fossil fuel burning plants. Opponents of large scale solar development sometimes view this as a failure to displace fossil fuel generation, but such views ignore the clean energy produced by solar development during the day. As discussed in the Climate Change Scoping Plan, "For the purpose of calculating the reduction of greenhouse gases in this Scoping Plan, ARB is counting the emission avoided by increasing the percentage of renewables in California's electricity mix from the current level of 12%to the 33% goal as shown in Table 9" Table 9 shows a 21.3 million metric ton CO_2E reduction in 2020 from

the state's implementation of the 33% RPS, which is Measure E-3. Climate Change Scoping Plan (CARB 2008) at p. 46 and Table 9. The County is entitled to rely on the air quality experts at CARB to conclude that by assisting in providing the state with renewable energy, it is helping the state achieve the 33% RPS, which is part of the State's strategy for reducing 21.3 million metric tons of greenhouse gases. Therefore, the project's impacts on greenhouse gas emissions in the 2030 and 2050 horizon years are **less than significant**.

4.0 CONCLUSIONS

Decommissioning activities would be expected to result in substantially lower air emissions compared to construction activities due to more stringent engine and motor vehicle standards, including BACT, at the time of decommissioning. Additionally, major pollutant generating activities would not occur or would be greatly reduced during decommissioning activities. These activities include clearing, grubbing and grading activities; gen-tie construction; intensive water importation and distribution on site associated with earth moving, site preparation, mass grading, and concrete mixing; and undergrounding of utility cables. As such, the maximum daily construction emissions estimated for the Proposed Project would represent the maximum daily emissions that would occur during any phase of the Proposed Project life, including construction, operation and decommissioning. However, for the purposes of a conservative analysis, it was assumed that decommissioning emissions would equate to emissions estimated for the Proposed Project construction activities. As with the construction emissions, the emissions resulting from decommissioning would be below the County's thresholds for criteria pollutants and impacts would be **less than significant**.

The project does not interfere with the state's implementation of (i) AB 32, (ii) Executive Order B-30-15's target of reducing statewide GHG emissions to 40% below 1990 levels by 2030 or (iii) Executive Order S-3-05's target of reducing statewide GHG emissions to 80% below 1990 levels by 2050 because it does not interfere with the state's implementation of GHG reduction plans described in the CARB's Updated Scoping Plan. Additionally, as shown in Table 1, the project in the year 2030 and 2046 would not exceed the County's 900 MT per year threshold. Therefore, the project's impacts on greenhouse gas emissions in the 2030 and 2050 horizon years are **less than significant**. As such, daily criteria pollutant emissions and annual greenhouse gas emissions would remain below the thresholds and impacts would be less than significant as previously concluded in the Draft EIR.

David Deckman
Director of Air Quality Services

REFERENCES

CARB. 2014. First Update to the Climate Change Scoping Plan – Building on the Framework Pursuant to AB 32. May 2014. http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

CARB. 2015. EMFAC2014 emission model, Version 1.0.7. http://www.arb.ca.gov/msei/categories.htm

ATTACHMENT 1

Mobile GHG Emission Estimates – Year 2030 and 2050

calendar_year	season_month	sub_area	vehicle_class	process	pollutant	emission
2046	Annual	San Diego (SD)	LDA	RUNEX	CH4	0.265076028
2046	Annual	San Diego (SD)	LDA	RUNEX	CO2	11261.1661
2046	Annual	San Diego (SD)	LDA	STREX	CH4	0.054741026
2046	Annual	San Diego (SD)	LDA	STREX	CO2	504.9535967
2046	Annual	San Diego (SD)	LDT1	RUNEX	CH4	0.006780949
2046	Annual	San Diego (SD)	LDT1	RUNEX	CO2	836.248763
2046	Annual	San Diego (SD)	LDT1	STREX	CH4	0.000661941
2046	Annual	San Diego (SD)	LDT1	STREX	CO2	38.38692534
2046	Annual	San Diego (SD)	LDT2	RUNEX	CH4	0.035917073
2046	Annual	San Diego (SD)	LDT2	RUNEX	CO2	3830.472717
2046	Annual	San Diego (SD)	LDT2	STREX	CH4	0.003791191
2046	Annual	San Diego (SD)	LDT2	STREX	CO2	167.2893043
2046	Annual	San Diego (SD)	MDV	RUNEX	CH4	0.022558335
2046	Annual	San Diego (SD)	MDV	RUNEX	CO2	2414.536697
2046	Annual	San Diego (SD)	MDV	STREX	CH4	0.003146238
2046	Annual	San Diego (SD)	MDV	STREX	CO2	108.153638
2046	Annual	San Diego (SD)	MH	RUNEX	CH4	0.000306699
2046	Annual	San Diego (SD)	MH	RUNEX	CO2	85.48478675
2046	Annual	San Diego (SD)	MH	STREX	CH4	1.32E-05
2046	Annual	San Diego (SD)	MH	STREX	CO2	0.054952885
2046	Annual	San Diego (SD)	MCY	RUNEX	CH4	0.298836915
2046	Annual	San Diego (SD)	MCY	RUNEX	CO2	111.292695
2046	Annual	San Diego (SD)	MCY	STREX	CH4	0.028937993
2046	Annual	San Diego (SD)	MCY	STREX	CO2	8.238190243
2046	Annual	San Diego (SD)	LHDT1	IDLEX	CH4	0.001236022
2046	Annual	San Diego (SD)	LHDT1	IDLEX	CO2	4.817033848
2046	Annual	San Diego (SD)	LHDT1	RUNEX	CH4	0.005659752
2046	Annual	San Diego (SD)	LHDT1	RUNEX	CO2	704.9655787
2046	Annual	San Diego (SD)	LHDT1	STREX	CH4	0.001405335
2046	Annual	San Diego (SD)	LHDT1	STREX	CO2	10.29606696
2046	Annual	San Diego (SD)	LHDT2	IDLEX	CH4	0.000506638
2046	Annual	San Diego (SD)	LHDT2	IDLEX	CO2	3.245967029
2046	Annual	San Diego (SD)	LHDT2	RUNEX	CH4	0.002697847
2046	Annual	San Diego (SD)	LHDT2	RUNEX	CO2	380.3952802
2046	Annual	San Diego (SD)	LHDT2	STREX	CH4	0.000453691
2046	Annual	San Diego (SD)	LHDT2	STREX	CO2	5.110474801
2046	Annual	San Diego (SD)	MHDT	IDLEX	CH4	0.001613015
2046	Annual	San Diego (SD)	MHDT	IDLEX	CO2	28.40866752
2046	Annual	San Diego (SD)	MHDT	RUNEX	CH4	0.004955798
2046	Annual	San Diego (SD)	MHDT	RUNEX	CO2	2534.029595
2046	Annual	San Diego (SD)	MHDT	STREX	CH4	0.002547025
2046	Annual	San Diego (SD)	MHDT	STREX	CO2	10.55337099
2046	Annual	San Diego (SD)	HHDT	IDLEX	CH4	0.002097813
2046	Annual	San Diego (SD)	HHDT	IDLEX	CO2	246.8627611
2046	Annual	San Diego (SD)	HHDT	RUNEX	CH4	0.438096172
2046	Annual	San Diego (SD)	HHDT	RUNEX	CO2	4747.654174

2046	Annual	San Diego (SD)	HHDT	STREX	CH4	0.000293548
2046	Annual	San Diego (SD)	HHDT	STREX	CO2	0.700690373
2046	Annual	San Diego (SD)	SBUS	IDLEX	CH4	0.002953584
2046	Annual	San Diego (SD)	SBUS	IDLEX	CO2	7.207106489
2046	Annual	San Diego (SD)	SBUS	RUNEX	CH4	0.00031231
2046	Annual	San Diego (SD)	SBUS	RUNEX	CO2	86.69859802
2046	Annual	San Diego (SD)	SBUS	STREX	CH4	0.00017676
2046	Annual	San Diego (SD)	SBUS	STREX	CO2	0.418700519
2046	Annual	San Diego (SD)	UBUS	RUNEX	CH4	0.148093717
2046	Annual	San Diego (SD)	UBUS	RUNEX	CO2	294.2046481
2046	Annual	San Diego (SD)	UBUS	STREX	CH4	0.000320052
2046	Annual	San Diego (SD)	UBUS	STREX	CO2	0.842593739
2046	Annual	San Diego (SD)	OBUS	IDLEX	CH4	0.000641837
2046	Annual	San Diego (SD)	OBUS	IDLEX	CO2	5.400301174
2046	Annual	San Diego (SD)	OBUS	RUNEX	CH4	0.000841072
2046	Annual	San Diego (SD)	OBUS	RUNEX	CO2	280.2466842
2046	Annual	San Diego (SD)	OBUS	STREX	CH4	0.001025303
2046	Annual	San Diego (SD)	OBUS	STREX	CO2	3.732376544

calendar_year	sub_area	vehicle_class	vmt
2046	San Diego (	LDA	60804917
2046	San Diego (	LDT1	3549975
2046	San Diego (	LDT2	17377260
2046	San Diego (	MDV	9517057
2046	San Diego (	MH	66304.25
2046	San Diego (	MCY	544652.7
2046	San Diego (	LHDT1	1072440
2046	San Diego (	LHDT2	522986.4
2046	San Diego (	MHDT	1986772
2046	San Diego (	HHDT	2865278
2046	San Diego (	SBUS	79596.99
2046	San Diego (	UBUS	156574.5
2046	San Diego (	OBUS	197095.6

calendar_year	sub_area	vehicle_class	population
2046	San Diego (	LDA	2086133
2046	San Diego (	LDT1	124640
2046	San Diego (	LDT2	572896.2
2046	San Diego (	MDV	332831.4
2046	San Diego (	MH	8963.551
2046	San Diego (	MCY	90366.5
2046	San Diego (	LHDT1	36959.78
2046	San Diego (	LHDT2	16743.64
2046	San Diego (	MHDT	42166.44
2046	San Diego (	HHDT	20397.57
2046	San Diego (	SBUS	2178.302
2046	San Diego (	UBUS	1304.852
2046	San Diego (	OBUS	3558.28

vehicle_class	population	**Fleet Mix**	
LDA	2,086,132.96	**0.624751647**	62.48%
LDT1	124,640.05	**0.037326995**	3.73%
LDT2	572,896.23	**0.171570016**	17.16%
MDV	332,831.44	**0.09967581**	9.97%
MH	8,963.55	**0.002684389**	0.27%
MCY	90,366.50	**0.027062809**	2.71%
LHDT1	36,959.78	**0.011068653**	1.11%
LHDT2	16,743.64	**0.005014357**	0.50%
MHDT	42,166.44	**0.012627937**	1.26%
HHDT	20,397.57	**0.00610863**	0.61%
SBUS	2,178.30	**0.000652354**	0.07%
UBUS	1,304.85	**0.000390775**	0.04%
OBUS	3,558.28	**0.001065628**	0.11%
Total	3,339,139.59	1.00	100.00%

calendar_year	sub_area	vehicle_class	trips
2046	San Diego (SD)	LDA	13203875
2046	San Diego (SD)	LDT1	773449.5
2046	San Diego (SD)	LDT2	3625954
2046	San Diego (SD)	MDV	2063993
2046	San Diego (SD)	MH	896.6347
2046	San Diego (SD)	MCY	180714.9
2046	San Diego (SD)	LHDT1	491043
2046	San Diego (SD)	LHDT2	221814.7
2046	San Diego (SD)	MHDT	89444.77
2046	San Diego (SD)	HHDT	5042.217
2046	San Diego (SD)	SBUS	3206.837
2046	San Diego (SD)	UBUS	5219.408
2046	San Diego (SD)	OBUS	47573.59

vehicle_class	process	pollutant	emission	vehicle_class	vmt	EF
LDA	RUNEX	CO2	11,261.17	LDA	60,804,916.84	**168.012087**
LDT1	RUNEX	CO2	836.25	LDT1	3,549,975.30	**213.700736**
LDT2	RUNEX	CO2	3,830.47	LDT2	17,377,259.54	**199.970967**
MDV	RUNEX	CO2	2,414.54	MDV	9,517,057.43	**230.158480**
MH	RUNEX	CO2	85.48	MH	66,304.25	**1,169.616139**
MCY	RUNEX	CO2	111.29	MCY	544,652.71	**185.371451**
LHDT1	RUNEX	CO2	704.97	LHDT1	1,072,440.46	**596.335391**
LHDT2	RUNEX	CO2	380.40	LHDT2	522,986.37	**659.842999**
MHDT	RUNEX	CO2	2,534.03	MHDT	1,986,772.04	**1,157.069656**
HHDT	RUNEX	CO2	4,747.65	HHDT	2,865,277.55	**1,503.170486**
SBUS	RUNEX	CO2	86.70	SBUS	79,596.99	**988.123609**
UBUS	RUNEX	CO2	294.20	UBUS	156,574.45	**1,704.607886**
OBUS	RUNEX	CO2	280.25	OBUS	197,095.57	**1,289.910224**

vehicle_class	process	pollutant	emission	vehicle_class	trips	EF
LDA	STREX	CO2	504.95	LDA	13,203,874.80	**34.693326**
LDT1	STREX	CO2	38.39	LDT1	773,449.47	**45.024328**
LDT2	STREX	CO2	167.29	LDT2	3,625,954.45	**41.854455**
MDV	STREX	CO2	108.15	MDV	2,063,992.77	**47.536677**
MH	STREX	CO2	0.05	MH	896.63	**55.599491**
MCY	STREX	CO2	8.24	MCY	180,714.92	**41.355537**
LHDT1	STREX	CO2	10.30	LHDT1	491,043.02	**19.021628**
LHDT2	STREX	CO2	5.11	LHDT2	221,814.70	**20.900987**
MHDT	STREX	CO2	10.55	MHDT	89,444.77	**107.036556**
HHDT	STREX	CO2	0.70	HHDT	5,042.22	**126.066730**
SBUS	STREX	CO2	0.42	SBUS	3,206.84	**118.446579**
UBUS	STREX	CO2	0.84	UBUS	5,219.41	**146.451181**
OBUS	STREX	CO2	3.73	OBUS	47,573.59	**71.173026**

vehicle_class	process	pollutant	emission	vehicle_class	vmt	EF
LDA	RUNEX	CH4	0.265076	LDA	60,804,916.84	**0.003955**
LDT1	RUNEX	CH4	0.0067809	LDT1	3,549,975.30	**0.001733**
LDT2	RUNEX	CH4	0.0359171	LDT2	17,377,259.54	**0.001875**
MDV	RUNEX	CH4	0.0225583	MDV	9,517,057.43	**0.002150**
MH	RUNEX	CH4	0.0003067	MH	66,304.25	**0.004196**
MCY	RUNEX	CH4	0.2988369	MCY	544,652.71	**0.497749**
LHDT1	RUNEX	CH4	0.0056598	LHDT1	1,072,440.46	**0.004788**
LHDT2	RUNEX	CH4	0.0026978	LHDT2	522,986.37	**0.004680**
MHDT	RUNEX	CH4	0.0049558	MHDT	1,986,772.04	**0.002263**
HHDT	RUNEX	CH4	0.4380962	HHDT	2,865,277.55	**0.138707**
SBUS	RUNEX	CH4	0.0003123	SBUS	79,596.99	**0.003559**
UBUS	RUNEX	CH4	0.1480937	UBUS	156,574.45	**0.858048**
OBUS	RUNEX	CH4	0.0008411	OBUS	197,095.57	**0.003871**

vehicle_class	process	pollutant	emission	vehicle_class	trips	EF
LDA	STREX	CH4	0.054741	LDA	13,203,874.80	**0.003761**
LDT1	STREX	CH4	0.0006619	LDT1	773,449.47	**0.000776**
LDT2	STREX	CH4	0.0037912	LDT2	3,625,954.45	**0.000949**
MDV	STREX	CH4	0.0031462	MDV	2,063,992.77	**0.001383**
MH	STREX	CH4	1.32E-05	MH	896.63	**0.013392**
MCY	STREX	CH4	0.028938	MCY	180,714.92	**0.145268**
LHDT1	STREX	CH4	0.0014053	LHDT1	491,043.02	**0.002596**
LHDT2	STREX	CH4	0.0004537	LHDT2	221,814.70	**0.001856**
MHDT	STREX	CH4	0.002547	MHDT	89,444.77	**0.025833**
HHDT	STREX	CH4	0.0002935	HHDT	5,042.22	**0.052815**
SBUS	STREX	CH4	0.0001768	SBUS	3,206.84	**0.050004**
UBUS	STREX	CH4	0.0003201	UBUS	5,219.41	**0.055628**
OBUS	STREX	CH4	0.0010253	OBUS	47,573.59	**0.019552**

Jacumba Solar Project - Operational Year 2030

San Diego Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	108.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2030
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Vehicle Trips - max 20 trips per day

Water And Wastewater - water use = 1,080,000 gal/yr

2.0 Emissions Summary

2.1 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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	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
Mobile	0.0180	0.0572	0.2756	1.3600e-003	0.0958	1.4000e-003	0.0972	0.0256	1.3000e-003	0.0269	0.0000	87.3014	87.3014	2.6300e-003	0.0000	87.3567
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.9213	3.9213	1.6000e-004	3.0000e-005	3.9348
Total	**0.0180**	**0.0572**	**0.2756**	**1.3600e-003**	**0.0958**	**1.4000e-003**	**0.0972**	**0.0256**	**1.3000e-003**	**0.0269**	**0.0000**	**91.2228**	**91.2228**	**2.7900e-003**	**3.0000e-005**	**91.2914**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	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
Mobile	0.0180	0.0572	0.2756	1.3600e-003	0.0958	1.4000e-003	0.0972	0.0256	1.3000e-003	0.0269	0.0000	87.3014	87.3014	2.6300e-003	0.0000	87.3567
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.9213	3.9213	1.6000e-004	3.0000e-005	3.9348
Total	**0.0180**	**0.0572**	**0.2756**	**1.3600e-003**	**0.0958**	**1.4000e-003**	**0.0972**	**0.0256**	**1.3000e-003**	**0.0269**	**0.0000**	**91.2228**	**91.2228**	**2.7900e-003**	**3.0000e-005**	**91.2914**

	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	0.0180	0.0572	0.2756	1.3600e-003	0.0958	1.4000e-003	0.0972	0.0256	1.3000e-003	0.0269	0.0000	87.3014	87.3014	2.6300e-003	0.0000	87.3567
Unmitigated	0.0180	0.0572	0.2756	1.3600e-003	0.0958	1.4000e-003	0.0972	0.0256	1.3000e-003	0.0269	0.0000	87.3014	87.3014	2.6300e-003	0.0000	87.3567

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	20.00	20.00	20.00	254,800	254,800
Total	20.00	20.00	20.00	254,800	254,800

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
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511899	0.073785	0.191337	0.129949	0.036287	0.005233	0.012831	0.024351	0.001922	0.001998	0.006506	0.000492	0.003409

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**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**

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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.9213	1.6000e-004	3.0000e-005	3.9348
Unmitigated	3.9213	1.6000e-004	3.0000e-005	3.9348

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 1.08	3.9213	1.6000e-004	3.0000e-005	3.9348
Total		**3.9213**	**1.6000e-004**	**3.0000e-005**	**3.9348**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 1.08	3.9213	1.6000e-004	3.0000e-005	3.9348
Total		**3.9213**	**1.6000e-004**	**3.0000e-005**	**3.9348**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation

Jacumba Solar Project - Operational Year 2046

San Diego Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	108.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2030 (EMFAC2014 emission factors inputted for year 2046)
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Vehicle Trips - max 20 trips per day

Water And Wastewater - water use = 1,080,000 gal/yr

Operational Vechicle Emission Factors - Emission factors for calendar year 2046 per EMFAC 2014 were inputted for CO2 and CH4

2.0 Emissions Summary

2.1 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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	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
Mobile	0.0329	0.0453	0.4034	1.2100e-003	0.0952	9.3000e-004	0.0961	0.0254	8.6000e-004	0.0262	0.0000	55.0189	55.0189	4.6000e-003	0.0000	55.1154
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.9213	3.9213	1.6000e-004	3.0000e-005	3.9348
Total	**0.0329**	**0.0453**	**0.4034**	**1.2100e-003**	**0.0952**	**9.3000e-004**	**0.0961**	**0.0254**	**8.6000e-004**	**0.0262**	**0.0000**	**58.9402**	**58.9402**	**4.7600e-003**	**3.0000e-005**	**59.0502**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	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
Mobile	0.0329	0.0453	0.4034	1.2100e-003	0.0952	9.3000e-004	0.0961	0.0254	8.6000e-004	0.0262	0.0000	55.0189	55.0189	4.6000e-003	0.0000	55.1154
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.9213	3.9213	1.6000e-004	3.0000e-005	3.9348
Total	**0.0329**	**0.0453**	**0.4034**	**1.2100e-003**	**0.0952**	**9.3000e-004**	**0.0961**	**0.0254**	**8.6000e-004**	**0.0262**	**0.0000**	**58.9402**	**58.9402**	**4.7600e-003**	**3.0000e-005**	**59.0502**

	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	0.0329	0.0453	0.4034	1.2100e-003	0.0952	9.3000e-004	0.0961	0.0254	8.6000e-004	0.0262	0.0000	55.0189	55.0189	4.6000e-003	0.0000	55.1154
Unmitigated	0.0329	0.0453	0.4034	1.2100e-003	0.0952	9.3000e-004	0.0961	0.0254	8.6000e-004	0.0262	0.0000	55.0189	55.0189	4.6000e-003	0.0000	55.1154

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	20.00	20.00	20.00	254,800	254,800
Total	20.00	20.00	20.00	254,800	254,800

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
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	100	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.624752	0.037327	0.171570	0.099676	0.011069	0.005014	0.012628	0.006109	0.001066	0.000391	0.027063	0.000652	0.002684

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	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
NaturalGas Unmitigated	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

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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**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**

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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.9213	1.6000e-004	3.0000e-005	3.9348
Unmitigated	3.9213	1.6000e-004	3.0000e-005	3.9348

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 1.08	3.9213	1.6000e-004	3.0000e-005	3.9348
Total		**3.9213**	**1.6000e-004**	**3.0000e-005**	**3.9348**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 1.08	3.9213	1.6000e-004	3.0000e-005	3.9348
Total		**3.9213**	**1.6000e-004**	**3.0000e-005**	**3.9348**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation