INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Appendix

Douglas Boulevard Substation Rebuild Project

January 2014

Lead Agency:

311 Vernon Street
Roseville, CA 95678
Contact: Mark Morse
(916) 774-5334

Prepared by:

City of Roseville
Development and Operations Division

APPENDICES

CEQA Initial Study/Mitigated Negative Declaration - Douglas Boulevard Substation Rebuild Project

Appendix A	Supporting Technical Documentation: Air Quality and Greenhouse Gas Emissions
Appendix B	Mitigation Monitoring and Reporting Program

Appendix A

Supporting Technical Documentation: Air Quality and Greenhouse Gas Emissions

Air Quality Impact and Greenhouse Gas Analysis

Douglas Substation Rebuild Project

Prepared for:

ROSEVILLE ELECTRIC

DECEMBER 2013

Prepared by:

RANEY
PLANNING & MANAGEMENT, INC.

1501 SPORTS DRIVE • SACRAMENTO • CA • 95834
OFFICE 916.372.6100 • FAX 916.419.6108
INFO@RANEYMANAGEMENT.COM

Introduction

This Air Quality Impact and Greenhouse Gas Analysis identifies and analyzes the potential environmental impacts from the Douglas Substation Rebuild project (proposed project) related to air quality and greenhouse gas (GHG) emissions. The information and analysis in this document is organized in accordance with the checklist in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. If the analysis provided in this document identifies potentially significant environmental effects of the project, mitigation measures that should be applied to the project are prescribed. All modeling results are included as Appendix A to this document.

Project Summary

The proposed project site, identified as Placer County Assessor's Parcel Number (APN) 013-213-002, is located along Interstate 80 (I-80) in the City of Roseville, California, near the intersection of Douglas Boulevard and North Sunrise Avenue (See Figure 1, Regional Project Location and Figure 2, Project Vicinity Map). The approximately two-acre project site is the current location for the 12 kilovolt (kV) Douglas Substation, which was originally constructed in the 1960's. Most of the equipment is original and has reached the end of its useful life. In order to maintain worker and public safety, and prevent major equipment damage, the proposed project consists of the rehabilitation and rebuild of the existing Douglas Substation. The proposed project would replace all aged equipment and rebuild the substation to current standards. It should be noted that the proposed project has already been approved by the City of Roseville.

The proposed project involves the rehabilitation of an existing substation. Thus, the primary concern related to air quality would be associated with the construction activities during rebuild, as on-site operations would not change as a result of implementation of the proposed project. In addition, the substation is generally unattended and is supervised and controlled remotely.

Given the challenges of keeping the substation in service during the rebuild as much as possible, the proposed project is anticipated to be accomplished in three phases to be completed over an approximately three- to four-year period. However, in order to provide a conservative analysis, the modeling assumes that the civil construction for each phase of the proposed project would occur consecutively. Construction was assumed to commence in May 2014. Assumptions utilized for project modeling are included as Appendix B to this document. Details for the three phases are provided in further detail below. Figure 3 shows the proposed project phasing plan.

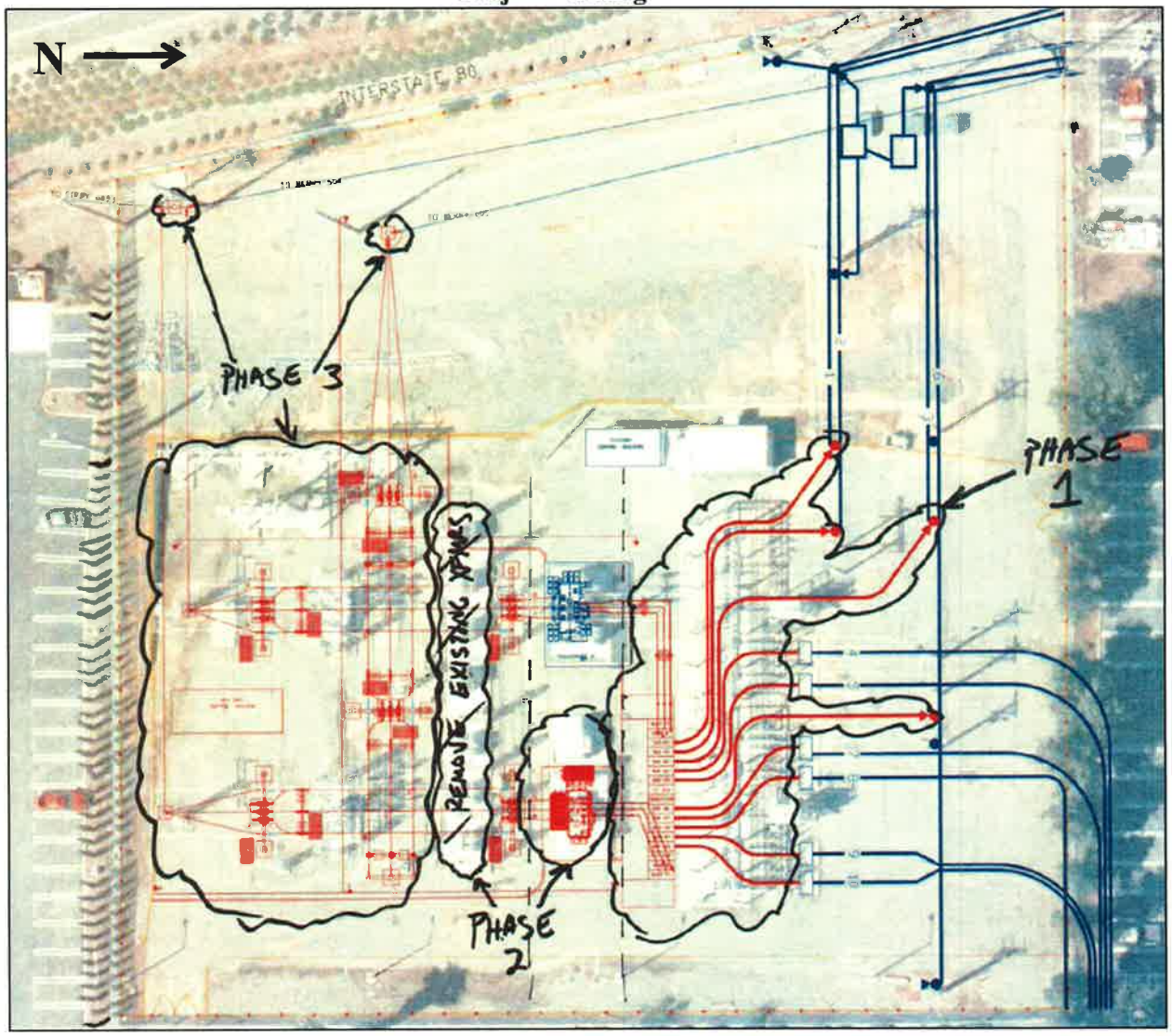
Phase 1

The first phase of the proposed project would consist of removing and replacing the existing 12 kV outdoor switchgear with a modern 12 kV metalclad switchgear. The total duration of Phase 1, which includes removal of old equipment, civil construction, electrical construction, testing, and commissioning, would be approximately six months. All construction activities would occur within the existing site. The estimated time of completion for the civil construction would be six weeks. Details of the civil construction are as follows:

Figure 1
Regional Project Location

Figure 2
Project Vicinity Map

Figure 3
Project Phasing Plan



- Demolition of existing concrete foundation;
- Trenching for underground 12 kV circuit entrances to new switchgear;
- Trenching for new grounding conductors;
- Drilling/pouring small pier foundations for 12 kV bus support structures;
- Excavation for new concrete foundation for new 12 kV switchgear;
- Pouring new steel reinforced concrete foundation for new switchgear; and
- Repairing asphalt as needed.

The anticipated construction equipment to be required for Phase 1 is presented in Table 1 below.

Table 1
Phase 1 Construction Equipment

Equipment	Time
Backhoe/loader	32 hours
12 Yard Dump Truck	minimal
200 Pound Plate Tamper	8 hours
Skid-steer Loader	40 hours
10 Yard Concrete Truck	minimal
Crane	2 hours

Phase 2

The second phase of the proposed project would include replacing the three existing single-phase power transformers and one regulating transformer. One new single unit (three-phase power transformer with integral regulating transformer) would be used in place of the old equipment. Replacement of the power transformer would require some minor conduit work and the existing concrete foundations would need to be removed and replaced with a new concrete foundation designed properly for the new transformer. The total duration of Phase 2 is estimated to be four months. All construction required for the phase would occur within the existing site. The estimated time of completion for the civil construction is three weeks. The anticipated construction equipment to be required for Phase 2 is presented in Table 2 below.

Table 2
Phase 2 Construction Equipment

Equipment	Time
Backhoe/loader	16 hours
12 Yard Dump Truck	minimal
200 Pound Plate Tamper	8 hours
Skid-steer Loader	16 hours
10 Yard Concrete Truck	minimal
Crane	24 hours

Phase 3

The third phase of construction would include replacing the 60 kV bus work and switching equipment and incoming structures. The new equipment and design would conform to the

current standards for design and functionality. The total duration of Phase 3 is estimated to be six months. All construction required for the phase would occur within the existing site. The estimated time of completion for the civil construction is eight weeks. Details of the civil construction are as follows:

- Demolition of existing concrete foundations;
- Trenching for new grounding conductors;
- Drilling/pouring pier foundations for 60 kV incoming/bus support steel structures;
- Excavation of deteriorated asphalt;
- Excavation for new equipment foundations and control building foundations;
- Pouring new steel reinforced concrete foundations for new equipment/control building;
- Covering 60 kV switchyard area with crushed rock; and
- Repairing/replacing asphalt as necessary for vehicle access within site.

The anticipated construction equipment to be required for Phase 3 is presented in Table 3 below.

Table 3
Phase 3 Construction Equipment

Equipment	Time
Backhoe/loader	64 hours
12 Yard Dump Truck	minimal
200 Pound Plate Tamper	24 hours
Skid-steer Loader	80 hours
10 Yard Concrete Truck	minimal
Crane	24 hours
Pier Drilling Rig	36 hours
47-inch Double Drum Diesel Roller	8 hours

Sources

1. Bay Area Air Quality Management District. *CEQA Air Quality Guidelines*. May 2011.
2. California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.
3. California Air Resources Board. *Ambient Air Quality Standards*. Available at: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. June 7, 2012.
4. California Air Resources Board. *Climate Change Scoping Plan*. December 2008.
5. California Air Resources Board. *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document*. August 19, 2011.
6. ENVIRON International Corporation and the California Air Districts. California Emissions Estimator Model User's Guide Version 2013.2. July 2013.
7. Holland & Knight. News article: "*California Air Resources Board, South Coast Air Quality Management District and San Diego County Release Recommendations for Setting Interim Significance Thresholds for Greenhouse Gases Under CEQA*." Available at: http://www.hklaw.com/publications/California-Air-Resources-Board-South-Coast-Air-Quality-Management-District-and-San-Diego-County-Release-Recommendations-for-Setting-Interim-Significance-Thresholds-for-Greenhouse-Gases-Under-CEQA-01-05-2009/. Accessed November 27, 2013.

8. Placer County Air Pollution Control District. *CEQA Air Quality Handbook.* October 11, 2012.
9. Sacramento Metropolitan Air Quality Management District. *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan.* December 19, 2008.

III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	✖	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	✖	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	✖	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	✖	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	✖	☐

Discussion

a. The proposed project site is under the jurisdiction of the Placer County Air Pollution Control District (PCAPCD) within the Sacramento Valley Air Basin (SVAB). The SVAB is designated nonattainment for the federal particulate matter 2.5 microns in diameter ($PM_{2.5}$) and the State particulate matter 10 microns in diameter (PM_{10}) standards, as well as for both the federal and State ozone standards. In order to address the federal nonattainment for ozone, the PCAPCD, along with other local air districts in the SVAB, is required to comply with and implement the State Implementation Plan (SIP) to demonstrate when and how the region can attain the federal ozone standards. As such, the PCAPCD, along with the other air districts in the region, prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Plan) in December 2008. The PCAPCD adopted the Plan on February 19, 2009. The California Air Resources Board (CARB) determined that the Plan meets Clean Air Act requirements and approved the Plan on March 26, 2009 as a revision to the SIP. Accordingly, the Plan is the applicable air quality plan for the proposed project site. It should be noted that an update to the Plan, the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*, has been prepared and was approved and adopted on September 26, 2013. The *2013 Revisions to the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* will be submitted to the U.S. Environmental Protection Agency (EPA) as a revision to the SIP.

The Plan demonstrates how existing and new control strategies would provide the necessary future emission reductions to meet the federal Clean Air Act requirements, including the National Ambient Air Quality standards (NAAQS). Adoption of all reasonably available control measures is required for attainment. Measures could include, but are not limited to the following: regional mobile incentive programs; urban forest development programs; and local regulatory measures for emission reductions related to

architectural coating, automotive refinishing, natural gas production and processing, asphalt concrete, and various others.

A conflict with, or obstruction of, implementation of the Plan could occur if a project generates greater emissions than what has been projected for the site in the emission inventories of the Plan. Emission inventories are developed based on projected increases in population, employment, regional vehicle miles traveled (VMT), and associated area sources within the region, which are based on regional projections that are, in turn, based on the General Plan land use and zoning designations for the region. In addition, general conformity requirements of the Plan include whether a project would cause or contribute to new violations of any NAAQS, increase the frequency or severity of an existing violation of any NAAQS, or delay timely attainment of any NAAQS.

The proposed project would not modify the existing land use or operations on the site. Thus, the project would not conflict with the emissions inventories of the Plan, and would be considered consistent with the Plan. In addition, the PCAPCD's permits, rules, and regulations are in compliance with the Plan, and the proposed project is required to comply with all applicable PCAPCD rules and regulations. Furthermore, as analyzed and determined in the discussions below, the proposed project would not result in project-level construction emissions that would exceed the applicable thresholds of significance. Thus, the project would not cause or contribute to new violations of any NAAQS, increase the frequency or severity of an existing violation of any NAAQS, or delay timely attainment of any NAAQS.

Because the proposed project would not conflict with the emissions inventories of the regional air quality plan, would result in emissions below the thresholds of significance, and would not conflict with or obstruct implementation of the applicable air quality plan, impacts would be considered ***less than significant***.

b. In order to evaluate ozone and other criteria air pollutant emissions and support attainment goals for those pollutants that the area is designated nonattainment, the PCAPCD recommends significance thresholds for emissions of PM_{10}, carbon monoxide (CO), and ozone precursors – reactive organic gases (ROG) and nitrous oxides (NO_X). The significance thresholds, expressed in pounds per day (lbs/day), listed in Table 4 are the PCAPCD's recommended thresholds of significance for use in the evaluation of air quality impacts associated with proposed development projects. The City of Roseville, as lead agency, utilizes the PCAPCD's recommended project-level criteria air pollutant thresholds of significance for CEQA evaluation purposes. Thus, if the proposed project's emissions exceed the pollutant thresholds presented in Table 4, the project could have a significant effect on air quality and the attainment of federal and State Ambient Air Quality Standards.

Table 4 PCAPCD Recommended Thresholds of Significance	
Pollutant	**Construction/Operational Threshold (lbs/day)**
ROG	82
NO_X	82
PM_{10}	82
CO	550
Source: PCAPCD, 2012.	

Implementation of the proposed project would contribute local emissions in the area during construction of the proposed project. The proposed project's short-term construction-related emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2 software (CalEEMod) - a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc. However, where project-specific data was available, such data was input into the model (e.g., construction equipment, timing, and phasing).

Construction Emissions

During construction of the project, various types of equipment and vehicles would temporarily operate on the project site. Construction exhaust emissions would be generated from construction equipment, earth movement activities, construction worker commutes, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes PM emissions. As construction of the proposed project would generate air pollutant emissions intermittently within the site, and the vicinity of the site, until all construction has been completed, construction is a potential concern because the proposed project is in a non-attainment area for ozone and PM.

The project is required to comply with all PCAPCD rules and regulations for construction, including, but not limited to Rule 202 related to visible emissions and Rule 228 related to fugitive dust, which would be noted on County-approved construction plans. In addition, the City has adopted construction standards that apply to all projects within the City limits that require projects to meet specific engineering and design requirements. The proposed project would be required to comply with the City Department of Public Works Construction Standards, Section 111, that are intended to minimize fugitive dust and PM_{10} emissions during construction activities. Compliance with the engineering and design requirements would be noted on City-approved construction plans as well.

As shown in Table 4 above, the PCAPCD threshold of significance for construction is 82 pounds per day for ROG, NO_X, and PM_{10} and 550 pounds per day for CO. Table 5 below presents the estimated construction-related emissions of ROG, NO_X, PM_{10}, and CO resulting from the proposed project.

Table 5
Maximum Unmitigated Project Construction Emissions

Pollutant	Project Emissions (lbs/day)	PCAPCD Significance Threshold (lbs/day)
ROG	5.30	82.0
NO_X	35.71	82.0
PM_{10}	2.58	82.0
CO	25.04	550.0

Source: CalEEMod, November 2013 (See Appendix).

As shown in the table, the project's associated short-term construction-related emissions would be well below the PCAPCD thresholds of significance. Therefore, construction activities associated with development of the proposed project would not substantially contribute to the PCAPCD's nonattainment status for ozone or PM. Because the proposed project would not result in emissions above the PCAPCD's recommended thresholds of significance and would comply with PCAPCD rules and regulations for construction, the project would be considered to result in a less-than-significant impact associated with construction emissions.

Operational Emissions

Operational emissions of ROG, NO_X, CO, and PM_{10} are generated by mobile and stationary sources, including day-to-day activities such as vehicle trips to and from a project site, natural gas combustion from heating mechanisms, landscape maintenance equipment exhaust, and consumer products (e.g., deodorants, cleaning products, spray paint, etc.). However, as discussed previously, the proposed project would not modify the existing land use or operations on the project site. In addition, the substation would be generally unattended and would be supervised and controlled remotely. Thus, the proposed project would not involve new mobile, stationary, or area sources and operational emissions would not increase compared to existing conditions. Therefore, the proposed project would be considered to result in a less-than-significant impact associated with operational emissions.

Conclusion

Because the proposed project would not exceed the applicable thresholds of significance for air pollutant emissions during construction or operation, the project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Therefore, implementation of the proposed project would result in a ***less-than-significant*** impact related to air quality.

c. The proposed project is within a nonattainment area for ozone and PM. The growth and combined population, vehicle usage, and business activity within the nonattainment area from the project, in combination with other past, present, and reasonably foreseeable projects within Roseville and surrounding areas, could either delay attainment of the standards or require the adoption of additional controls on existing and future air pollution sources to offset emission increases.

The proposed project would only involve emissions during construction, as the substation is generally unattended, is supervised and controlled remotely, and would not involve new operational emissions. Construction emissions are a one-time release and would occur temporarily (approximately three to four years in this case). Accordingly, the incremental contribution of the proposed project's construction-related emissions would not be cumulatively considerable. Therefore, the proposed project would result in a ***less-than-significant*** cumulative impact.

d. The proposed project consists of the rehabilitation and rebuild of the existing Douglas Substation. As presented above, CO emissions were determined to be well below thresholds during both construction and operation of the proposed project. Emissions of CO result from the incomplete combustion of carbon-containing fuels such as gasoline or wood and are particularly related to traffic levels. As the project does not involve new operations on-site, the proposed project would not result in an increase in vehicle trips in the area. Accordingly, the proposed project would not cause substantial levels of CO at surrounding intersections or generate localized concentrations of CO that would exceed standards.

Toxic Air Contaminants (TACs) are a category of environmental concern as well. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommendations for siting new sensitive land uses near sources typically associated with significant levels of TAC emissions, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks from TACs are a function of both the concentration of emissions and the duration of exposure. Health-related risks associated with DPM in particular are primarily associated with long-term exposure and associated risk of contracting cancer.

Because the proposed project does not involve changes to on-site operations, long-term operation of any stationary diesel engine or other major on-site stationary source of TACs would not occur. Emissions of DPM resulting from construction-related equipment and vehicles would be temporary. In addition, the nearest sensitive receptor would be the existing residences located nearly 950 feet south of the project site, opposite Douglas Boulevard. Therefore, the nearest sensitive receptors would not be expected to be exposed to substantial long-term concentrations of DPM emissions associated with construction of the proposed project.

Furthermore, the proposed project would not introduce any sensitive receptors to the area, and, thus, would not expose sensitive receptors to any existing sources of substantial pollutant concentrations.

In conclusion, the proposed project would not introduce sensitive receptors to the area and would not generate substantial levels of pollutant concentrations that would expose existing sensitive receptors in the area. Therefore, impacts related to exposing sensitive receptors to substantial pollutant concentrations would be ***less than significant***.

e. Typical odor sources include industrial or intensive agricultural uses. Operation of the proposed project would be performed remotely. Accordingly, the proposed project does not involve operations that would create objectionable odors. Diesel fumes from construction equipment are often found to be objectionable; however, construction would be temporary and diesel emissions would be regulated. In addition, as discussed above, the nearest sensitive receptor would be the existing residences located nearly 950 feet south of the project site, opposite Douglas Boulevard. Therefore, the nearest sensitive receptors would not be expected to be exposed to substantial concentrations of DPM emissions associated with construction of the proposed project. For the aforementioned reasons, the proposed project would not create objectionable odors or expose a substantial number or people to objectionable odors, and a ***less-than-significant*** impact related to objectionable odors would result.

VII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	✖	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	☐	☐	✖	☐

Discussion

a,b. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact.

As discussed previously, the proposed project would not modify the existing land use or operations on the project site. The substation would be generally unattended and would be supervised and controlled remotely. Thus, the proposed project would not involve mobile, stationary, or area sources and new operational emissions, including GHG emissions, would not occur. Accordingly, the only increase in GHG emissions generated by the proposed project that would contribute to global climate change would occur during the construction phase, which would be temporary. Due to the inherently cumulative nature of global climate change, effects of which occur over a long period of time, a project's GHG emissions contribution is typically quantified and analyzed on an annual basis (i.e., annual operational GHG emissions). Construction-related GHG emissions are a one-time release that occurs over a short period of time; nonetheless, construction-related GHG emissions have been quantified for the proposed project.

The estimated construction-related GHG emissions attributable to the proposed project would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and construction equipment usage. The proposed project's short-term construction-related GHG emissions were estimated using the CalEEMod software - a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction, which are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., $MTCO_2e$), based on the global warming potential of the individual pollutants. The estimated increase in GHG emissions associated with construction of the proposed project is summarized in Table 6.

Table 6 Project Total Annual Construction GHG Emissions	
	CO_2 emissions ($MTCO_2e$)
Total Construction GHG Emissions	**162.43**
Source: CalEEMod, November 2013 (See Appendix).	

As presented in the table, short-term emissions of GHG associated with construction of the proposed project are estimated to be 162.43 $MTCO_2e$. As stated above, because construction-related GHG emissions are a one-time release that occurs over a short period of time and are typically considered separate from operational emissions, construction-related GHG emissions are not typically considered to result in a substantial contribution towards global climate change. In addition, neither the PCAPCD nor the City has established thresholds of significance for construction-related GHG emissions. Due to the size of the proposed project and lack of any change to annual operational emissions, the GHG emissions resulting from construction of the proposed project are not expected to significantly contribute to the cumulative GHG levels of the area.

For comparison purposes, multiple agencies have developed draft interim thresholds of significance for GHG emissions, including the following:

- 1,100 $MTCO_2e$ per year according to Bay Area Air Quality Management District (BAAQMD);
- 1,600 $MTCO_2e$ per year according to CARB;
- 3,000 $MTCO_2e$ per year according to South Coast Air Quality Management District (SCAQMD); and
- 900 $MTCO_2e$ per year according to San Diego County.

The proposed project's construction-related emissions would be substantially below all of the draft interim thresholds of significance listed above for GHG emissions, and would occur only one time, not annually or over multiple years. Therefore, the proposed project's construction-related GHG emissions are not expected to cause a significant impact.

In conclusion, operational GHG emissions would be minimal and would not change as a result of the proposed project; however, construction of the proposed project would generate GHG emissions that would contribute to the overall GHG levels in the atmosphere. Although the proposed project would contribute to GHG levels during construction of the proposed project, the incremental contribution to cumulative GHG emissions and global climate change would be minor. In addition, the GHG emissions resulting from construction of the proposed project would occur only once temporarily during construction. Therefore, the proposed project's contribution to global climate change through GHG emissions would be considered ***less-than-significant***.

APPENDIX A

CALEEMOD RESULTS

Douglas Substation Rebuild

Placer County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	2.00	User Defined Unit	2.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2014
Utility Company	Roseville Electric				
CO2 Intensity (lb/MWhr)	793.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - project is a substation rebuild on an approximately 2-acre site

Construction Phase - project would consist of 3 phases; assumed to commence May 2014; assumed to occur immediately consecutively

Off-road Equipment - based on construction equipment list provided by applicant

Off-road Equipment - based on info from applicant

Off-road Equipment - based on info from applicant

Trips and VMT - assumed typical CalEEMod default trips for this size of project

Consumer Products - no operations

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	42.00

tblConstructionPhase	NumDays	200.00	21.00
tblConstructionPhase	NumDays	200.00	56.00
tblLandUse	LotAcreage	0.00	2.00
tblOffRoadEquipment	HorsePower	205.00	130.00
tblOffRoadEquipment	HorsePower	9.00	81.00
tblOffRoadEquipment	HorsePower	16.00	46.00
tblOffRoadEquipment	HorsePower	16.00	89.00
tblOffRoadEquipment	HorsePower	16.00	89.00
tblOffRoadEquipment	HorsePower	8.00	174.00
tblOffRoadEquipment	HorsePower	8.00	84.00
tblOffRoadEquipment	HorsePower	8.00	84.00
tblOffRoadEquipment	HorsePower	64.00	255.00
tblOffRoadEquipment	HorsePower	64.00	46.00
tblOffRoadEquipment	HorsePower	64.00	125.00
tblOffRoadEquipment	LoadFactor	0.50	0.36
tblOffRoadEquipment	LoadFactor	0.56	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.43	0.41
tblOffRoadEquipment	LoadFactor	0.43	0.74
tblOffRoadEquipment	LoadFactor	0.43	0.74
tblOffRoadEquipment	LoadFactor	0.37	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.45
tblOffRoadEquipment	LoadFactor	0.37	0.42
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cement and Mortar Mixers
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00

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					
2014	5.2725	35.6363	24.6388	0.0360	0.1944	2.3798	2.5743	0.0525	2.2648	2.3173	0.0000	3,510.1172	3,510.1172	0.8376	0.0000	3,527.7057
Total	**5.2725**	**35.6363**	**24.6388**	**0.0360**	**0.1944**	**2.3798**	**2.5743**	**0.0525**	**2.2648**	**2.3173**	**0.0000**	**3,510.1172**	**3,510.1172**	**0.8376**	**0.0000**	**3,527.7057**

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					
2014	5.2725	35.6363	24.6388	0.0360	0.1944	2.3798	2.5743	0.0525	2.2648	2.3173	0.0000	3,510.1172	3,510.1172	0.8376	0.0000	3,527.7057
Total	**5.2725**	**35.6363**	**24.6388**	**0.0360**	**0.1944**	**2.3798**	**2.5743**	**0.0525**	**2.2648**	**2.3173**	**0.0000**	**3,510.1172**	**3,510.1172**	**0.8376**	**0.0000**	**3,527.7057**

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
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
Mobile	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	**2.0000e-005**	**0.0000**	**2.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**0.0000**	**4.7000e-004**

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
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
Mobile	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	**2.0000e-005**	**0.0000**	**2.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**0.0000**	**4.7000e-004**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1	Building Construction	5/5/2014	7/1/2014	5	42	
2	Phase 2	Building Construction	7/2/2014	7/30/2014	5	21	
3	Phase 3	Building Construction	7/31/2014	10/16/2014	5	56	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1	Cement and Mortar Mixers	1	1.00	81	0.73
Phase 1	Cranes	1	2.00	226	0.29
Phase 1	Dumpers/Tenders	1	1.00	46	0.45
Phase 1	Forklifts	2	7.00	89	0.20
Phase 2	Forklifts	2	7.00	89	0.20
Phase 1	Plate Compactors	1	8.00	174	0.41
Phase 1	Skid Steer Loaders	1	8.00	255	0.40
Phase 1	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Phase 3	Forklifts	2	7.00	89	0.20
Phase 2	Cement and Mortar Mixers	1	1.00	9	0.56
Phase 2	Cranes	1	8.00	226	0.29
Phase 2	Dumpers/Tenders	1	1.00	89	0.20
Phase 1	Generator Sets	1	8.00	84	0.74
Phase 2	Generator Sets	1	8.00	84	0.74
Phase 2	Plate Compactors	1	8.00	84	0.74
Phase 2	Skid Steer Loaders	1	8.00	46	0.45
Phase 2	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 3	Generator Sets	1	8.00	84	0.74
Phase 3	Bore/Drill Rigs	1	8.00	130	0.36
Phase 3	Cement and Mortar Mixers	1	1.00	9	0.56
Phase 3	Cranes	1	8.00	226	0.29
Phase 3	Dumpers/Tenders	1	1.00	89	0.20
Phase 1	Welders	3	8.00	46	0.45
Phase 2	Welders	3	8.00	46	0.45
Phase 3	Plate Compactors	1	8.00	84	0.74
Phase 3	Rollers	1	8.00	80	0.38
Phase 3	Skid Steer Loaders	1	8.00	125	0.42
Phase 3	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 3	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1	12	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2	12	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3	14	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Phase 1 - 2014

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	3.8673	21.0229	15.6204	0.0214		1.6370	1.6370		1.5812	1.5812		2,009.6552	2,009.6552	0.4844		2,019.8271
Total	**3.8673**	**21.0229**	**15.6204**	**0.0214**		**1.6370**	**1.6370**		**1.5812**	**1.5812**		**2,009.6552**	**2,009.6552**	**0.4844**		**2,019.8271**

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	0.1104	0.8881	0.9927	1.6600e-003	0.0466	0.0188	0.0654	0.0133	0.0173	0.0306		171.8895	171.8895	1.8200e-003		171.9277
Worker	0.0878	0.0822	1.0719	1.8400e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		162.7414	162.7414	8.0400e-003		162.9102
Total	**0.1982**	**0.9703**	**2.0645**	**3.5200e-003**	**0.1944**	**0.0199**	**0.2143**	**0.0525**	**0.0183**	**0.0708**		**334.6309**	**334.6309**	**9.8600e-003**		**334.8379**

3.2 Phase 1 - 2014

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	3.8673	21.0228	15.6204	0.0214		1.6370	1.6370		1.5812	1.5812	0.0000	2,009.6552	2,009.6552	0.4844		2,019.8271
Total	**3.8673**	**21.0228**	**15.6204**	**0.0214**		**1.6370**	**1.6370**		**1.5812**	**1.5812**	**0.0000**	**2,009.6552**	**2,009.6552**	**0.4844**		**2,019.8271**

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	0.1104	0.8881	0.9927	1.6800e-003	0.0466	0.0188	0.0654	0.0133	0.0173	0.0306		171.8895	171.8895	1.8200e-003		171.9277
Worker	0.0878	0.0822	1.0719	1.8400e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		162.7414	162.7414	8.0400e-003		162.9102
Total	**0.1982**	**0.9703**	**2.0645**	**3.5200e-003**	**0.1944**	**0.0199**	**0.2143**	**0.0525**	**0.0183**	**0.0708**		**334.6309**	**334.6309**	**9.8600e-003**		**334.8379**

3.3 Phase 2 - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.6901	29.5416	19.4886	0.0277		2.0555	2.0555		1.9665	1.9665		2,675.4551	2,675.4551	0.6799		2,689.7335
Total	**4.6901**	**29.5416**	**19.4886**	**0.0277**		**2.0555**	**2.0555**		**1.9665**	**1.9665**		**2,675.4551**	**2,675.4551**	**0.6799**		**2,689.7335**

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	0.1104	0.8881	0.9927	1.6800e-003	0.0466	0.0188	0.0654	0.0133	0.0173	0.0306		171.8895	171.8895	1.8200e-003		171.9277
Worker	0.0878	0.0822	1.0719	1.8400e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		162.7414	162.7414	8.0400e-003		162.9102
Total	**0.1982**	**0.9703**	**2.0645**	**3.5200e-003**	**0.1944**	**0.0199**	**0.2143**	**0.0525**	**0.0183**	**0.0708**		**334.6309**	**334.6309**	**9.8600e-003**		**334.8379**

3.3 Phase 2 - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.6901	29.5416	19.4886	0.0277		2.0555	2.0555		1.9665	1.9665	0.0000	2,675.4551	2,675.4551	0.6799		2,689.7335
Total	4.6901	29.5416	19.4886	0.0277		2.0555	2.0555		1.9665	1.9665	0.0000	2,675.4551	2,675.4551	0.6799		2,689.7335

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	0.1104	0.8881	0.9927	1.6800e-003	0.0466	0.0188	0.0654	0.0133	0.0173	0.0306		171.8895	171.8895	1.8200e-003		171.9277
Worker	0.0878	0.0822	1.0719	1.8400e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		162.7414	162.7414	8.0400e-003		162.9102
Total	0.1982	0.9703	2.0645	3.5200e-003	0.1944	0.0199	0.2143	0.0525	0.0183	0.0708		334.6309	334.6309	9.8600e-003		334.8379

3.4 Phase 3 - 2014

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	5.0743	34.6660	22.5743	0.0325		2.3599	2.3599		2.2465	2.2465		3,175.4863	3,175.4863	0.8277		3,192.8678
Total	5.0743	34.6660	22.5743	0.0325		2.3599	2.3599		2.2465	2.2465		3,175.4863	3,175.4863	0.8277		3,192.8678

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	0.1104	0.8881	0.9927	1.6800e-003	0.0466	0.0188	0.0654	0.0133	0.0173	0.0306		171.8895	171.8895	1.8200e-003		171.9277
Worker	0.0878	0.0822	1.0719	1.8400e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		162.7414	162.7414	8.0400e-003		162.9102
Total	0.1982	0.9703	2.0645	3.5200e-003	0.1944	0.0199	0.2143	0.0525	0.0183	0.0708		334.6309	334.6309	9.8600e-003		334.8379

3.4 Phase 3 - 2014

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	5.0743	34.6660	22.5743	0.0325		2.3599	2.3599		2.2465	2.2465	0.0000	3,175.4862	3,175.4862	0.8277		3,192.8678
Total	5.0743	34.6660	22.5743	0.0325		2.3599	2.3599		2.2465	2.2465	0.0000	3,175.4862	3,175.4862	0.8277		3,192.8678

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					
Vendor	0.1104	0.8881	0.9927	1.6800e-003	0.0466	0.0188	0.0654	0.0133	0.0173	0.0306		171.8895	171.8895	1.8200e-003		171.9277
Worker	0.0878	0.0822	1.0719	1.8400e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		162.7414	162.7414	8.0400e-003		162.9102
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
Total	0.1982	0.9703	2.0645	3.5200e-003	0.1944	0.0199	0.2143	0.0525	0.0183	0.0708		334.6309	334.6309	9.8600e-003		334.8379

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	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
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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.435933	0.064283	0.188932	0.172713	0.065635	0.008882	0.012354	0.035619	0.001805	0.001063	0.008394	0.000567	0.003818

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	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
	kBTU/yr	lb/day										lb/day					
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
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**

5.2 Energy by Land Use - NaturalGas

Mitigated

Land Use	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
	kBTU/yr	lb/day										lb/day					
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
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**

6.0 Area Detail

6.1 Mitigation Measures Area

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Unmitigated	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

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	0.0000					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
Landscaping	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**2.0000e-005**	**0.0000**	**2.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

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	0.0000					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
Landscaping	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**2.0000e-005**	**0.0000**	**2.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

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

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	2.00	User Defined Unit	2.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2014
Utility Company	Roseville Electric				
CO2 Intensity (lb/MWhr)	793.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - project is a substation rebuild on an approximately 2-acre site

Construction Phase - project would consist of 3 phases; assumed to commence May 2014; assumed to occur immediately consecutively

Off-road Equipment - based on construction equipment list provided by applicant

Off-road Equipment - based on info from applicant

Off-road Equipment - based on info from applicant

Trips and VMT - assumed typical CalEEMod default trips for this size of project

Consumer Products - no operations

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	42.00

tblConstructionPhase	NumDays	200.00	21.00
tblConstructionPhase	NumDays	200.00	56.00
tblLandUse	LotAcreage	0.00	2.00
tblOffRoadEquipment	HorsePower	205.00	130.00
tblOffRoadEquipment	HorsePower	9.00	81.00
tblOffRoadEquipment	HorsePower	16.00	46.00
tblOffRoadEquipment	HorsePower	16.00	89.00
tblOffRoadEquipment	HorsePower	16.00	89.00
tblOffRoadEquipment	HorsePower	8.00	174.00
tblOffRoadEquipment	HorsePower	8.00	84.00
tblOffRoadEquipment	HorsePower	8.00	84.00
tblOffRoadEquipment	HorsePower	64.00	255.00
tblOffRoadEquipment	HorsePower	64.00	46.00
tblOffRoadEquipment	HorsePower	64.00	125.00
tblOffRoadEquipment	LoadFactor	0.50	0.36
tblOffRoadEquipment	LoadFactor	0.56	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.43	0.41
tblOffRoadEquipment	LoadFactor	0.43	0.74
tblOffRoadEquipment	LoadFactor	0.43	0.74
tblOffRoadEquipment	LoadFactor	0.37	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.45
tblOffRoadEquipment	LoadFactor	0.37	0.42
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cement and Mortar Mixers
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00

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					
2014	5.2968	35.7143	25.0429	0.0358	0.1944	2.3801	2.5746	0.0525	2.2651	2.3176	0.0000	3,489.6785	3,489.6785	0.8376	0.0000	3,507.2678
Total	**5.2968**	**35.7143**	**25.0429**	**0.0358**	**0.1944**	**2.3801**	**2.5746**	**0.0525**	**2.2651**	**2.3176**	**0.0000**	**3,489.6785**	**3,489.6785**	**0.8376**	**0.0000**	**3,507.2678**

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					
2014	5.2968	35.7143	25.0429	0.0358	0.1944	2.3801	2.5746	0.0525	2.2651	2.3176	0.0000	3,489.6784	3,489.6784	0.8376	0.0000	3,507.2678
Total	**5.2968**	**35.7143**	**25.0429**	**0.0358**	**0.1944**	**2.3801**	**2.5746**	**0.0525**	**2.2651**	**2.3176**	**0.0000**	**3,489.6784**	**3,489.6784**	**0.8376**	**0.0000**	**3,507.2678**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
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
Mobile	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	2.0000e-005	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000	0.0000	4.7000e-004

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	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
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
Mobile	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	2.0000e-005	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000	0.0000	4.7000e-004

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1	Building Construction	5/5/2014	7/1/2014	5	42	
2	Phase 2	Building Construction	7/2/2014	7/30/2014	5	21	
3	Phase 3	Building Construction	7/31/2014	10/16/2014	5	56	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1	Cement and Mortar Mixers	1	1.00	81	0.73
Phase 1	Cranes	1	2.00	226	0.29
Phase 1	Dumpers/Tenders	1	1.00	48	0.45
Phase 1	Forklifts	2	7.00	89	0.20
Phase 2	Forklifts	2	7.00	89	0.20
Phase 1	Plate Compactors	1	8.00	174	0.41
Phase 1	Skid Steer Loaders	1	8.00	255	0.40
Phase 1	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Phase 3	Forklifts	2	7.00	89	0.20
Phase 2	Cement and Mortar Mixers	1	1.00	9	0.56
Phase 2	Cranes	1	8.00	226	0.29
Phase 2	Dumpers/Tenders	1	1.00	89	0.20
Phase 1	Generator Sets	1	8.00	84	0.74
Phase 2	Generator Sets	1	8.00	84	0.74
Phase 2	Plate Compactors	1	8.00	84	0.74
Phase 2	Skid Steer Loaders	1	8.00	46	0.45
Phase 2	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 3	Generator Sets	1	8.00	84	0.74
Phase 3	Bore/Drill Rigs	1	8.00	130	0.36
Phase 3	Cement and Mortar Mixers	1	1.00	9	0.56
Phase 3	Cranes	1	8.00	226	0.29
Phase 3	Dumpers/Tenders	1	1.00	89	0.20
Phase 1	Welders	3	8.00	46	0.45
Phase 2	Welders	3	8.00	46	0.45
Phase 3	Plate Compactors	1	8.00	84	0.74
Phase 3	Rollers	1	8.00	80	0.38
Phase 3	Skid Steer Loaders	1	8.00	125	0.42
Phase 3	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 3	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1	12	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2	12	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3	14	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Phase 1 - 2014

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	3.8673	21.0229	15.6204	0.0214		1.6370	1.6370		1.5812	1.5812		2,009.6552	2,009.6552	0.4844		2,019.8271
Total	**3.8673**	**21.0229**	**15.6204**	**0.0214**		**1.6370**	**1.6370**		**1.5812**	**1.5812**		**2,009.6552**	**2,009.6552**	**0.4844**		**2,019.8271**

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	0.1419	0.9454	1.4537	1.6800e-003	0.0466	0.0191	0.0657	0.0133	0.0176	0.0309		170.6128	170.6128	1.8600e-003		170.6518
Worker	0.0806	0.1029	1.0149	1.6200e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		143.5794	143.5794	8.0400e-003		143.7482
Total	**0.2225**	**1.0483**	**2.4686**	**3.3000e-003**	**0.1944**	**0.0202**	**0.2146**	**0.0525**	**0.0186**	**0.0711**		**314.1922**	**314.1922**	**9.9000e-003**		**314.4000**

3.2 Phase 1 - 2014

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	3.8673	21.0229	15.6204	0.0214		1.6370	1.6370		1.5812	1.5812	0.0000	2,009.6552	2,009.6552	0.4844		2,019.8271
Total	**3.8673**	**21.0229**	**15.6204**	**0.0214**		**1.6370**	**1.6370**		**1.5812**	**1.5812**	**0.0000**	**2,009.6552**	**2,009.6552**	**0.4844**		**2,019.8271**

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	0.1419	0.9454	1.4537	1.6800e-003	0.0486	0.0191	0.0657	0.0133	0.0176	0.0309		170.6128	170.6128	1.8600e-003		170.6518
Worker	0.0806	0.1029	1.0149	1.6200e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		143.5794	143.5794	8.0400e-003		143.7482
Total	**0.2225**	**1.0483**	**2.4686**	**3.3000e-003**	**0.1944**	**0.0202**	**0.2146**	**0.0525**	**0.0186**	**0.0711**		**314.1922**	**314.1922**	**9.9000e-003**		**314.4000**

3.3 Phase 2 - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.6901	29.5416	19.4886	0.0277		2.0555	2.0555		1.9665	1.9665		2,675.4551	2,675.4551	0.6799		2,689.7335
Total	**4.6901**	**29.5416**	**19.4886**	**0.0277**		**2.0555**	**2.0555**		**1.9665**	**1.9665**		**2,675.4551**	**2,675.4551**	**0.6799**		**2,689.7335**

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	0.1419	0.9454	1.4537	1.6800e-003	0.0486	0.0191	0.0657	0.0133	0.0176	0.0309		170.6128	170.6128	1.8600e-003		170.6518
Worker	0.0806	0.1029	1.0149	1.6200e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		143.5794	143.5794	8.0400e-003		143.7482
Total	**0.2225**	**1.0483**	**2.4686**	**3.3000e-003**	**0.1944**	**0.0202**	**0.2146**	**0.0525**	**0.0186**	**0.0711**		**314.1922**	**314.1922**	**9.9000e-003**		**314.4000**

3.3 Phase 2 - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.6901	29.5416	19.4886	0.0277		2.0555	2.0555		1.9665	1.9665	0.0000	2,675.4551	2,675.4551	0.6799		2,689.7335
Total	4.6901	29.5416	19.4886	0.0277		2.0555	2.0555		1.9665	1.9665	0.0000	2,675.4551	2,675.4551	0.6799		2,689.7335

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	0.1419	0.9454	1.4537	1.6800e-003	0.0466	0.0191	0.0657	0.0133	0.0176	0.0309		170.6128	170.6128	1.8600e-003		170.6518
Worker	0.0806	0.1029	1.0149	1.6200e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		143.5794	143.5794	8.0400e-003		143.7482
Total	0.2225	1.0483	2.4686	3.3000e-003	0.1944	0.0202	0.2146	0.0525	0.0186	0.0711		314.1922	314.1922	9.9000e-003		314.4000

3.4 Phase 3 - 2014

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	5.0743	34.6660	22.5743	0.0325		2.3599	2.3599		2.2465	2.2465		3,175.4863	3,175.4863	0.8277		3,192.8678
Total	5.0743	34.6660	22.5743	0.0325		2.3599	2.3599		2.2465	2.2465		3,175.4863	3,175.4863	0.8277		3,192.8678

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	0.1419	0.9454	1.4537	1.6800e-003	0.0466	0.0191	0.0657	0.0133	0.0176	0.0309		170.6128	170.6128	1.8600e-003		170.6518
Worker	0.0806	0.1029	1.0149	1.6200e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		143.5794	143.5794	8.0400e-003		143.7482
Total	0.2225	1.0483	2.4686	3.3000e-003	0.1944	0.0202	0.2146	0.0525	0.0186	0.0711		314.1922	314.1922	9.9000e-003		314.4000

3.4 Phase 3 - 2014

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	5.0743	34.6660	22.5743	0.0325		2.3599	2.3599		2.2465	2.2465	0.0000	3,175.4862	3,175.4862	0.8277		3,192.8678
Total	5.0743	34.6660	22.5743	0.0325		2.3599	2.3599		2.2465	2.2465	0.0000	3,175.4862	3,175.4862	0.8277		3,192.8678

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	0.1419	0.9454	1.4537	1.6800e-003	0.0466	0.0191	0.0657	0.0133	0.0176	0.0309		170.6128	170.6128	1.8600e-003		170.6518
Worker	0.0806	0.1029	1.0149	1.6200e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0100e-003	0.0402		143.5794	143.5794	8.0400e-003		143.7482
Total	0.2225	1.0483	2.4686	3.3000e-003	0.1944	0.0202	0.2146	0.0525	0.0186	0.0711		314.1922	314.1922	9.9000e-003		314.4000

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	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
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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.435933	0.064283	0.188932	0.172713	0.065635	0.008882	0.012354	0.035619	0.001805	0.001063	0.008394	0.000567	0.003818

4.4 Fleet Mix

Historical Energy Use: N

5.0 Energy Detail

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	0.0000	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

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					
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
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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
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
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**

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	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Unmitigated	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

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	0.0000					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
Landscaping	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**2.0000e-005**	**0.0000**	**2.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

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	0.0000					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
Landscaping	2.0000e-005	0.0000	2.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**2.0000e-005**	**0.0000**	**2.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

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

Douglas Substation Rebuild

Placer County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	2.00	User Defined Unit	2.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2014
Utility Company	Roseville Electric				
CO2 Intensity (lb/MWhr)	793.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - project is a substation rebuild on an approximately 2-acre site

Construction Phase - project would consist of 3 phases; assumed to commence May 2014; assumed to occur immediately consecutively

Off-road Equipment - based on construction equipment list provided by applicant

Off-road Equipment - based on info from applicant

Off-road Equipment - based on info from applicant

Trips and VMT - assumed typical CalEEMod default trips for this size of project

Consumer Products - no operations

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	42.00

tblConstructionPhase	NumDays	200.00	21.00
tblConstructionPhase	NumDays	200.00	56.00
tblLandUse	LotAcreage	0.00	2.00
tblOffRoadEquipment	HorsePower	205.00	130.00
tblOffRoadEquipment	HorsePower	9.00	81.00
tblOffRoadEquipment	HorsePower	16.00	46.00
tblOffRoadEquipment	HorsePower	16.00	89.00
tblOffRoadEquipment	HorsePower	16.00	89.00
tblOffRoadEquipment	HorsePower	8.00	174.00
tblOffRoadEquipment	HorsePower	8.00	84.00
tblOffRoadEquipment	HorsePower	8.00	84.00
tblOffRoadEquipment	HorsePower	64.00	255.00
tblOffRoadEquipment	HorsePower	64.00	46.00
tblOffRoadEquipment	HorsePower	64.00	125.00
tblOffRoadEquipment	LoadFactor	0.50	0.36
tblOffRoadEquipment	LoadFactor	0.56	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.45
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.38	0.20
tblOffRoadEquipment	LoadFactor	0.43	0.41
tblOffRoadEquipment	LoadFactor	0.43	0.74
tblOffRoadEquipment	LoadFactor	0.43	0.74
tblOffRoadEquipment	LoadFactor	0.37	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.45
tblOffRoadEquipment	LoadFactor	0.37	0.42
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cement and Mortar Mixers
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00

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					
2014	0.2845	1.7834	1.2952	1.8500e-003	0.0111	0.1232	0.1343	3.0000e-003	0.1179	0.1209	0.0000	161.6467	161.6467	0.0373	0.0000	162.4292
Total	**0.2845**	**1.7834**	**1.2952**	**1.8500e-003**	**0.0111**	**0.1232**	**0.1343**	**3.0000e-003**	**0.1179**	**0.1209**	**0.0000**	**161.6467**	**161.6467**	**0.0373**	**0.0000**	**162.4292**

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	tons/yr										MT/yr					
2014	0.2845	1.7834	1.2952	1.8500e-003	0.0111	0.1232	0.1343	3.0000e-003	0.1179	0.1209	0.0000	161.6465	161.6465	0.0373	0.0000	162.4290
Total	**0.2845**	**1.7834**	**1.2952**	**1.8500e-003**	**0.0111**	**0.1232**	**0.1343**	**3.0000e-003**	**0.1179**	**0.1209**	**0.0000**	**161.6465**	**161.6465**	**0.0373**	**0.0000**	**162.4290**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-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	0.0000	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	0.0000	0.0000
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	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0000**	**4.0000e-005**

2.2 Overall Operational

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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-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	0.0000	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	0.0000	0.0000
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	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0000**	**4.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1	Building Construction	5/5/2014	7/1/2014	5	42	
2	Phase 2	Building Construction	7/2/2014	7/30/2014	5	21	
3	Phase 3	Building Construction	7/31/2014	10/16/2014	5	56	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1	Cement and Mortar Mixers	1	1.00	81	0.73
Phase 1	Cranes	1	2.00	226	0.29
Phase 1	Dumpers/Tenders	1	1.00	46	0.45
Phase 1	Forklifts	2	7.00	89	0.20
Phase 2	Forklifts	2	7.00	89	0.20
Phase 1	Plate Compactors	1	8.00	174	0.41
Phase 1	Skid Steer Loaders	1	8.00	255	0.40
Phase 1	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 3	Forklifts	2	7.00	89	0.20
Phase 2	Cement and Mortar Mixers	1	1.00	9	0.56
Phase 2	Cranes	1	8.00	226	0.29
Phase 2	Dumpers/Tenders	1	1.00	89	0.20
Phase 1	Generator Sets	1	8.00	84	0.74
Phase 2	Generator Sets	1	8.00	84	0.74
Phase 2	Plate Compactors	1	8.00	84	0.74
Phase 2	Skid Steer Loaders	1	8.00	46	0.45
Phase 2	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 3	Generator Sets	1	8.00	84	0.74
Phase 3	Bore/Drill Rigs	1	8.00	130	0.36

Phase 3	Cement and Mortar Mixers	1	1.00	9	0.56
Phase 3	Cranes	1	8.00	226	0.29
Phase 3	Dumpers/Tenders	1	1.00	89	0.20
Phase 1	Welders	3	8.00	46	0.45
Phase 2	Welders	3	8.00	46	0.45
Phase 3	Plate Compactors	1	8.00	84	0.74
Phase 3	Rollers	1	8.00	80	0.38
Phase 3	Skid Steer Loaders	1	8.00	125	0.42
Phase 3	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 3	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1	12	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2	12	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3	14	18.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Phase 1 - 2014

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	tons/yr										MT/yr					
Off-Road	0.0812	0.4415	0.3280	4.5000e-004		0.0344	0.0344		0.0332	0.0332	0.0000	38.2857	38.2857	9.2300e-003	0.0000	38.4795
Total	**0.0812**	**0.4415**	**0.3280**	**4.5000e-004**		**0.0344**	**0.0344**		**0.0332**	**0.0332**	**0.0000**	**38.2857**	**38.2857**	**9.2300e-003**	**0.0000**	**38.4795**

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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	2.6300e-003	0.0198	0.0256	4.0000e-005	9.4000e-004	4.0000e-004	1.3400e-003	2.7000e-004	3.7000e-004	6.4000e-004	0.0000	3.2644	3.2644	3.0000e-005	0.0000	3.2652
Worker	1.6000e-003	1.9600e-003	0.0204	4.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.8115	2.8115	1.5000e-004	0.0000	2.8147
Total	**4.2300e-003**	**0.0216**	**0.0460**	**8.0000e-005**	**3.9100e-003**	**4.2000e-004**	**4.3300e-003**	**1.0800e-003**	**3.9000e-004**	**1.4500e-003**	**0.0000**	**6.0759**	**6.0759**	**1.8000e-004**	**0.0000**	**6.0799**

3.2 Phase 1 - 2014

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	tons/yr										MT/yr					
Off-Road	0.0812	0.4415	0.3280	4.5000e-004		0.0344	0.0344		0.0332	0.0332	0.0000	38.2857	38.2857	9.2300e-003	0.0000	38.4794
Total	**0.0812**	**0.4415**	**0.3280**	**4.5000e-004**		**0.0344**	**0.0344**		**0.0332**	**0.0332**	**0.0000**	**38.2857**	**38.2857**	**9.2300e-003**	**0.0000**	**38.4794**

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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	2.6300e-003	0.0198	0.0256	4.0000e-005	9.4000e-004	4.0000e-004	1.3400e-003	2.7000e-004	3.7000e-004	6.4000e-004	0.0000	3.2644	3.2644	3.0000e-005	0.0000	3.2652
Worker	1.6000e-003	1.9600e-003	0.0204	4.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.8115	2.8115	1.5000e-004	0.0000	2.8147
Total	**4.2300e-003**	**0.0216**	**0.0460**	**8.0000e-005**	**3.9100e-003**	**4.2000e-004**	**4.3300e-003**	**1.0800e-003**	**3.9000e-004**	**1.4500e-003**	**0.0000**	**6.0759**	**6.0759**	**1.8000e-004**	**0.0000**	**6.0799**

3.3 Phase 2 - 2014

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	tons/yr										MT/yr					
Off-Road	0.0493	0.3102	0.2046	2.9000e-004		0.0216	0.0216		0.0207	0.0207	0.0000	25.4849	25.4849	6.4800e-003	0.0000	25.6209
Total	**0.0493**	**0.3102**	**0.2046**	**2.9000e-004**		**0.0216**	**0.0216**		**0.0207**	**0.0207**	**0.0000**	**25.4849**	**25.4849**	**6.4800e-003**	**0.0000**	**25.6209**

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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	1.3100e-003	9.8000e-003	0.0128	2.0000e-005	4.7000e-004	2.0000e-004	6.7000e-004	1.4000e-004	1.8000e-004	3.2000e-004	0.0000	1.6322	1.6322	2.0000e-005	0.0000	1.6326
Worker	8.0000e-004	9.8000e-004	0.0102	2.0000e-005	1.4800e-003	1.0000e-005	1.5000e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.4057	1.4057	8.0000e-005	0.0000	1.4073
Total	**2.1100e-003**	**0.0108**	**0.0230**	**4.0000e-005**	**1.9500e-003**	**2.1000e-004**	**2.1700e-003**	**5.4000e-004**	**1.9000e-004**	**7.3000e-004**	**0.0000**	**3.0380**	**3.0380**	**1.0000e-004**	**0.0000**	**3.0399**

3.3 Phase 2 - 2014

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	tons/yr										MT/yr					
Off-Road	0.0493	0.3102	0.2046	2.9000e-004		0.0216	0.0216		0.0207	0.0207	0.0000	25.4849	25.4849	6.4800e-003	0.0000	25.6209
Total	**0.0493**	**0.3102**	**0.2046**	**2.9000e-004**		**0.0216**	**0.0216**		**0.0207**	**0.0207**	**0.0000**	**25.4849**	**25.4849**	**6.4800e-003**	**0.0000**	**25.6209**

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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	1.3100e-003	9.8000e-003	0.0128	2.0000e-005	4.7000e-004	2.0000e-004	6.7000e-004	1.4000e-004	1.8000e-004	3.2000e-004	0.0000	1.6322	1.6322	2.0000e-005	0.0000	1.6326
Worker	8.0000e-004	9.8000e-004	0.0102	2.0000e-005	1.4800e-003	1.0000e-005	1.5000e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.4057	1.4057	8.0000e-005	0.0000	1.4073
Total	**2.1100e-003**	**0.0108**	**0.0230**	**4.0000e-005**	**1.9500e-003**	**2.1000e-004**	**2.1700e-003**	**5.4000e-004**	**1.9000e-004**	**7.3000e-004**	**0.0000**	**3.0380**	**3.0380**	**1.0000e-004**	**0.0000**	**3.0399**

3.4 Phase 3 - 2014

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	tons/yr										MT/yr					
Off-Road	0.1421	0.9707	0.6321	9.1000e-004		0.0661	0.0661		0.0629	0.0629	0.0000	80.6611	80.6611	0.0210	0.0000	81.1026
Total	**0.1421**	**0.9707**	**0.6321**	**9.1000e-004**		**0.0661**	**0.0661**		**0.0629**	**0.0629**	**0.0000**	**80.6611**	**80.6611**	**0.0210**	**0.0000**	**81.1026**

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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	3.5000e-003	0.0261	0.0342	5.0000e-005	1.2600e-003	5.3000e-004	1.7900e-003	3.6000e-004	4.9000e-004	8.5000e-004	0.0000	4.3526	4.3526	5.0000e-005	0.0000	4.3536
Worker	2.1300e-003	2.6100e-003	0.0272	5.0000e-005	3.9600e-003	3.0000e-005	3.9900e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.7486	3.7486	2.0000e-004	0.0000	3.7529
Total	**5.6300e-003**	**0.0287**	**0.0614**	**1.0000e-004**	**5.2200e-003**	**5.6000e-004**	**5.7800e-003**	**1.4100e-003**	**5.2000e-004**	**1.9300e-003**	**0.0000**	**8.1012**	**8.1012**	**2.5000e-004**	**0.0000**	**8.1065**

3.4 Phase 3 - 2014

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	tons/yr										MT/yr					
Off-Road	0.1421	0.9707	0.6321	9.1000e-004		0.0661	0.0661		0.0629	0.0629	0.0000	80.6610	80.6610	0.0210	0.0000	81.1025
Total	**0.1421**	**0.9707**	**0.6321**	**9.1000e-004**		**0.0661**	**0.0661**		**0.0629**	**0.0629**	**0.0000**	**80.6610**	**80.6610**	**0.0210**	**0.0000**	**81.1025**

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	tons/yr										MT/yr					
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	0.0000	0.0000
Vendor	3.5000e-003	0.0261	0.0342	5.0000e-005	1.2600e-003	5.3000e-004	1.7900e-003	3.6000e-004	4.9000e-004	8.5000e-004	0.0000	4.3526	4.3526	5.0000e-005	0.0000	4.3536
Worker	2.1300e-003	2.6100e-003	0.0272	5.0000e-005	3.9600e-003	3.0000e-005	3.9900e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.7486	3.7486	2.0000e-004	0.0000	3.7529
Total	**5.6300e-003**	**0.0287**	**0.0614**	**1.0000e-004**	**5.2200e-003**	**5.6000e-004**	**5.7800e-003**	**1.4100e-003**	**5.2000e-004**	**1.9300e-003**	**0.0000**	**8.1012**	**8.1012**	**2.5000e-004**	**0.0000**	**8.1065**

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	0.0000	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	0.0000	0.0000
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	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.435933	0.064283	0.188932	0.172713	0.065635	0.008882	0.012354	0.035619	0.001805	0.001063	0.008394	0.000567	0.003818

5.0 Energy Detail

5.1 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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	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

5.3 Energy by Land Use - Electricity

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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Unmitigated	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005

6.2 Area by SubCategory

Unmitigated

SubCategory	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
	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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0000**	**4.0000e-005**

Mitigated

SubCategory	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
	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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0000**	**4.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Category	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

7.2 Water by Land Use

Unmitigated

Land Use	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

APPENDIX B

MODELING ASSUMPTIONS

Assumptions for Douglas Substation Rebuild Air Quality and GHG Modeling:

- Construction would commence May 2014
- Civil construction for each phase would occur consecutively
- Construction occurs 5 days/week
- Construction worker trips:
  - 18 worker trips per day
  - 7 vendor trips per day
- Phase 1 civil construction:
  - 6 weeks (42 days total)
  - 5/5/13 to 7/1/14

Phase 1 Construction Equipment			
Equipment	**Type**	**Time**	**Notes**
Backhoe/loader	John Deere 310G or similar	32 hours	Would be used for trenching and excavating.
12 Yard Dump Truck	International 7500 or similar	minimal	Would be used to haul off concrete, dirt, and asphalt. Would not be running for longer than needed to enter and exit the site.
200 Pound Plate Tamper	Multiquip MVC-90H or similar	8 hours	Would be used to compact ground in preparation for new foundations.
Skid-steer Loader	John Deere CT322 or similar	40 hours	Would be used to demolish concrete, move construction materials, etc.
10 Yard Concrete Truck	N/A	minimal	Would be used to bring concrete to site for new foundations.
Crane	N/A	2 hours	Would be used to move new switchgear from trailer to new foundation.

  - Assumed each piece of equipment operates 8 hours per day throughout phase, except for dump truck and concrete truck with 1 hour per day and crane with 2 hours per day
- Phase 2 civil construction:
  - 3 weeks (21 days total)
  - 7/2/14 to 7/30/14

Phase 2 Construction Equipment			
Equipment	**Type**	**Time**	**Notes**
Backhoe/loader	John Deere 310G or similar	16 hours	Would be used for trenching and excavating.
12 Yard Dump Truck	International 7500 or similar	minimal	Would be used to haul off concrete, dirt, and asphalt. Would not be running for longer than needed to enter and exit the site.
200 Pound Plate Tamper	Multiquip MVC-90H or similar	8 hours	Would be used to compact ground in preparation for new foundations.
Skid-steer Loader	John Deere CT322 or similar	16 hours	Would be used to demolish concrete, move construction materials, etc.
10 Yard Concrete Truck	N/A	minimal	Would be used to bring concrete to site for new foundations.
Crane	N/A	24 hours	Would be used to remove old transformers from the site and to move the new transformer from trailer to new foundation.

  - Assumed each piece of equipment operates 8 hours per day throughout phase, except for dump truck and concrete truck with 1 hour per day
- Phase 3 civil construction:
  - 8 weeks (56 days)
  - 7/31/14 to 10/16/14

Phase 3 Construction Equipment			
Equipment	**Type**	**Time**	**Notes**
Backhoe/loader	John Deere 310G or similar	64 hours	Would be used for trenching and excavating.
12 Yard Dump Truck	International 7500 or similar	minimal	Would be used to haul off concrete, dirt, and asphalt. Would not be running for longer than needed to enter and exit the site.
200 Pound Plate Tamper	Multiquip MVC-90H or similar	24 hours	Would be used to compact ground in preparation for new foundations.
Skid-steer Loader	John Deere CT322 or similar	80 hours	Would be used to demolish concrete, move construction materials, etc.
10 Yard Concrete Truck	N/A	minimal	Would be used to bring concrete to site for new foundations.
Crane	N/A	24 hours	Would be used to erect steel structures and place control building on foundation.
Pier Drilling Rig	Komatsu 300 or similar	36 hours	Would be used to drill for new concrete pier foundations.
47-inch Double Drum Diesel Roller	Ingersoll-Rand DD-24 or similar	8 hours	Would be used to compact new asphalt as required.

  - Assumed each piece of equipment operates 8 hours per day throughout phase, except for dump truck and concrete truck with 1 hour per day

Appendix B Mitigation Monitoring and Reporting Program

Appendix B: Douglas Boulevard Substation Rebuild Project MITIGATION MONITORING AND REPORTING PROGRAM CHECKLIST				
Mitigation Measure/Compliance Standard	**Implementing Responsibility**	**Monitoring Responsibility for Implementing Measure**	**Timing***	**Verification of Compliance (Initials/Date)**
Mitigation Measure CR-1 (Previously Unidentified Cultural Resources) The City shall ensure construction specifications include the following information in the grading notes: (a) Construction shall stop if potential cultural resources are encountered. It is possible that previous activities have obscured surface evidence of cultural resources. If signs of an archeological site, such as any unusual amounts of stone, bone, or shell, are uncovered during grading or other construction activities, work shall be halted within 100 feet of the find and the Roseville City Manager's Office shall be notified. A qualified archeologist shall be consulted for an on-site evaluation. If the site is or appears to be eligible for listing in state or federal registers, additional mitigation, such as further testing for evaluation or data recovery, may be necessary. (b) In the event resources are discovered, the City shall request a qualified archaeologist assess the find, and determine whether the resource requires further study. Any previously undiscovered resources found during construction should be recorded on appropriate Department of Parks and Recreation (DPR) 523 forms and evaluated for significance under all applicable regulatory criteria. (c) No further grading shall occur in the area of the discovery until the City approves the measures to protect the resources. Any archaeological artifacts recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the Lead Agency where they would be afforded long-term preservation to allow future scientific study.	City and Contractor	City	plan check and during construction	

Appendix B: Douglas Boulevard Substation Rebuild Project MITIGATION MONITORING AND REPORTING PROGRAM CHECKLIST				
Mitigation Measure/Compliance Standard	**Implementing Responsibility**	**Monitoring Responsibility for Implementing Measure**	**Timing***	**Verification of Compliance (Initials/Date)**
Mitigation Measure CR-2 (Previously Unidentified Paleontological Resources) a) The City shall ensure construction specifications shall include the following information in the grading notes: If substantial fossil remains (particularly vertebrate remains) are discovered during earth-disturbing activities on the project site, activities will stop immediately until a state-registered professional geologist or qualified professional paleontologist can assess the nature and importance of the find and a qualified professional paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The applicant will be responsible for ensuring that recommendations regarding treatment and reporting are implemented.	City and Contractor	City	plan check and during construction	

Appendix B:
Douglas Boulevard Substation Rebuild Project
MITIGATION MONITORING AND REPORTING PROGRAM CHECKLIST

Mitigation Measure/Compliance Standard	Implementing Responsibility	Monitoring Responsibility for Implementing Measure	Timing*	Verification of Compliance (Initials/Date)
Mitigation Measure CR-3 (Inadvertent Discovery of Human Remains) a) The City shall ensure construction specifications include the following in the grading notes: If human remains are discovered during any phase of construction, including disarticulated or cremated remains, the construction contractor shall immediately cease all ground-disturbing activities within 100 feet of the remains and notify Mark Morse, Environmental Coordinator, City of Roseville City Manager's Office. b) (b) In accordance with California State Health and Safety Code Section 7050.5, no further disturbance shall occur until the following steps have been completed: • The County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code (PRC) § 5097.98. • If the remains are determined by the County Coroner to be Native American, the NAHC shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. It is further recommended that a professional archaeologist with Native American burial experience conduct a field investigation of the specific site and consult with the Most Likely Descendant (MLD), if any, identified by the NAHC. As necessary and appropriate, a professional archaeologist may provide technical assistance to the MLD, including but not limited to, the excavation and removal of the human remains.	City and Contractor	City	plan check and during construction	

* Timing is defined as follows:

Plan Check/Prior to construction: The mitigation activity consists of ensuring that a particular mitigation action has taken place prior to the beginning or any construction or grading and/or at the plan check stage.

During construction: The mitigation activity consists of active monitoring while grading or construction is occurring on the project site.