

Appendix A

Air Quality and Greenhouse Gas Emissions Data

CalEEMod Emission Summary

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FROM: Vince Mirabella

DATE: January 18, 2021

SUBJECT: Summary of CalEEMod Model Runs and Output for the Great Scott Tree Service Facility Project

SECTION 1: PROJECT INFORMATION

1.1 - Project Name

Great Scott Tree Service Facility Project (Project)

1.2 - Project Location

The Project is located in the City of Lake Forest, west of Linear Lane, north of Canada Road, with Serrano Creek bordering the Project site to the south and east. Regional access to the project site is provided by State Route 241 (SR-241), which is located approximately 0.5 miles northeast of the Project site, and Interstate I-5 (I-5), which is located about 3.45 miles southwest of the Project site. Local access to the Project site is provided by Linear Lane and Canada Road, accessed by Dimension Drive and Lake Forest Drive or Bake Parkway.

1.3 - Project Description

The Project includes the rehabilitation of the existing home to be used as an office for the Great Scott Tree Service (GSTS) administrative functions, removal of the structures related to animal keeping, creation of parking areas for the tree service vehicles and equipment, and creation of a concrete pad for drying the wood chips generated during the day's work of cutting trees. Most of the parking areas will be permeable gravel surfaces to encourage percolation into the soil rather than runoff that would require substantial water quality features. The existing barn will remain in place and will be used for the storage of equipment. [Table 1](#) provides the Project's land-use assumptions in the CalEEMod assessment. The balance of the project site, 4+ acres, is comprised of natural vegetation.

Table 1: Project Land-Use Assumptions

CalEEMod Land –Use Assumption	Size	Comment
General Light Industry	6,420 sq-ft	Office Building and Storage Building
Other Non-Asphalt Surfaces	35,000 sq-ft	Unpaved Permeable Gravel Area
Paved Parking	5,600 sq-ft	Parking Area
Landscaping	7,500 sq-ft	Treated as a City Park land-use in CalEEMod
sq-ft = square feet Source: Project Description		

1.4 - Purpose of the Report

This report summarizes the results of the project construction and operational criteria pollutant and greenhouse gas (GHG) emissions and energy usage estimates using the California Emissions Estimator Model (CalEEMod Version 2016.3.2) land use emission model for use in preparing CEQA regulatory documentation. The analysis compared the estimated Project emissions to the recommended air quality and GHG significance thresholds recommended by the South Coast Air Quality Management District (SCAQMD).

1.5 - Conclusions

- The project's construction and operation would not exceed any project-level criteria pollutant regional or localized emission significance threshold adopted by the SCAQMD. No mitigation is required
- The project's construction and operation would not result in a cumulatively significant impact on the region's air quality. No mitigation is required.
- The project's construction and operation would neither exceed the greenhouse gas significance threshold adopted for this Project nor conflict with any applicable plan, policy or regulation adopted to reduce greenhouse gas emissions. No mitigation is required.
- The construction and operation of the Project would not result in the wasteful, inefficient, and unnecessary consumption of energy, especially fossil fuels such as coal, natural gas, and petroleum, associated with project design, project location, the use of electricity and natural gas, and the use of fuel by vehicles anticipated to travel to and from the Project. No mitigation is required.

SECTION 2: CALEEMOD EMISSION ESTIMATES – CRITERIA POLLUTANTS

This section quantifies the Project construction and operational criteria pollutant emissions¹ and compares the emissions to the regional and local emission significance thresholds recommended by the SCAQMD.

2.1 - Significance Thresholds-Criteria Pollutants

The City has adopted air quality significance thresholds as part of its 2020 CEQA Guidelines, specifically, *City of Lake Forest CEQA Significance Thresholds Guide, Appendix 1, Section 4*². The City air quality thresholds are based on the regional and localized significance thresholds recommended by the SCAQMD. As a result, the SCAQMD air quality significance thresholds are incorporated herein by reference³. All air quality threshold assessments in this report will be referred to as the SCAQMD significance thresholds, and such thresholds were applied in assessing the significance of the Project's emissions.

2.1.1 Regional Emission Significance Thresholds

The incremental regional air quality impacts of an individual project are generally very small and difficult to measure. However, the SCAQMD's regional significance thresholds define maximum daily emissions whose exceedance by a Project's construction or operation may add to the overall emission burden within the SCAQMD and impact the attainment maintenance of ambient air quality standards.

The regional thresholds apply to criteria pollutant emissions of carbon monoxide (CO), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), particulate matter (PM₁₀ and PM_{2.5}), and reactive organic gases (ROG). The quantification of regional emissions includes those project emissions generated from onsite emission sources (i.e., off-road construction equipment, fugitive dust) and offsite emission sources (vehicle travel to and away from the Project). Table 2 shows the SCAQMD's regional significance thresholds.

Table 2: SCAQMD Regional Emission Significance Thresholds

Air Pollutant	Maximum Daily Emissions (pounds/day)	
	Construction	Operation
Carbon Monoxide	550	550
Oxides of Nitrogen	100	55
Sulfur Oxides	150	150

¹Criteria pollutants are the only air pollutants with national air quality standards that define allowable concentrations of these substances in the ambient air. Criteria pollutants include carbon monoxide (CO), oxides of nitrogen (NO_x), sulfur dioxide (SO₂), and particulate matter (PM₁₀ and PM_{2.5}). Note that ozone is another criteria pollutant; however, in terms of defining significance thresholds, ozone is represented by its precursor components, oxides of nitrogen (NO_x) and reactive organic gases.

²City of Lake Forest CEQA Significance Thresholds Guide, July 21, 2020. Website: <https://lakeforestca.gov/DocumentCenter/View/823/CEQA-Significance-Thresholds-Guide-2020--Transpo-Analysis-GuidelinesPDF>

³SCAQMD 2019. SCAQMD Air Quality Significance Thresholds. Website: <http://www.aqmd.gov/docs/default/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>

Air Pollutant	Maximum Daily Emissions (pounds/day)	
	Construction	Operation
PM ₁₀	150	150
PM _{2.5}	55	55
Reactive Organic Gases	75	55
Source: SCAQMD ³		

2.1.2 Localized Significance Thresholds

Project-related construction or operational air emissions may have the potential to exceed the State and national air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact on the SCAQMD. The SCAQMD has established that air quality impacts are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs). The LSTs represent the maximum rates of daily construction or operational emissions from a project site that would not result in air pollutant levels that would exceed a national or State ambient air quality standards (SCAQMD 2003⁴, 2008⁵).

There are three principal differences between the regional thresholds and the LSTs.

- First, the regional thresholds include all sources of project construction and operational emissions generated from onsite and offsite emission sources, whereas the LSTs only consider the emissions generated from onsite emission sources.
- Second, the LSTs only apply to CO, NO_x, and particulate matter (PM₁₀ and PM_{2.5}), while the regional thresholds include ROG and SO_x.
- Third, the regional thresholds apply to emission sources regardless of where the source is located within the SCAQMD. In contrast, the LSTs are location-dependent on the Project's size and emission location relative to the nearest local sensitive receptor⁶.

For purposes of this localized assessment, the SCAQMD provides screening emission look-up tables for projects that disturb a maximum of 5 acres in size in a day. The look-up tables were developed by the SCAQMD to readily determine if the daily emissions of CO, NO_x, PM₁₀, and PM_{2.5} from a project could result in a significant impact on the local air quality. The analysis determined the appropriate LSTs based on the Project's source receptor area (SRA)⁷, size, and distance to the nearest local sensitive receptor. The SCAQMD has divided the SCAQMD into 38 SRAs, each with a set of LSTs that depend on the air pollutant, project size, and

⁴ SCAQMD 2003. Final Localized Significance Threshold Methodology. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>

⁵ SCAQMD 2008: Final Localized Significance Threshold Methodology. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf>

⁶ The SCAQMD defines a sensitive receptor as an individual who is most health-wise susceptible to exposures to air pollutants including children the elderly, and adults with chronic health issues. Such receptors include residences, schools, elderly care centers, and hospitals where such receptors could be exposed to air pollutants for at least 24 hours.

⁷ A source-receptor area (SRA) is a geographic area within the SCAQMD that can act as both a source of emissions and a receptor of emission impacts

distance to the nearest sensitive receptor. The Project site is located within SRA 19, Saddleback Valley. The LSTs for this SRA were applied in this LST assessment.

LSTs for Construction

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- CalEEMod is utilized to determine the maximum daily onsite emissions that will occur during construction activity.
- The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (SCAQMD 2011)⁸. This fact sheet is used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod
- If the total acreage disturbed is less than or equal to 5 acres per day, then the SCAQMD's screening look-up tables are utilized to determine if a project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in pounds/day compared to CalEEMod outputs.
- For projects that exceed 5 acres, the 5-acre LST look-up tables can be used as a screening tool to determine which pollutants require additional detailed analysis. This approach is conservative as it assumes that all onsite emissions associated with the Project would occur within a concentrated 5-acre area. On a larger site, the LSTs would be larger than the 5-acre area values since the LSTs are a function of the area's size.
- The LST methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. The methodology uses linear interpolation to determine the thresholds for project sizes between the values given or with receptors at distances between the given receptors.

Table 3 shows the maximum daily disturbed acreage during site demolition, preparation, grading, and infrastructure construction during 2021, the principal dust-generating activities based on the types and numbers of construction equipment used for each construction activity identified by the CalEEMod model.

Note that, as shown in Table 6 below, the conceptual construction schedule, there are time periods during which several construction activities will overlap and coincide in time. During these times, the emissions from each overlapping construction activity are summed together to generate total daily emissions. Based on the construction schedule, the construction activities resulting in the maximum disturbed area would occur during the time period when the grading activity (1.5 acres) and infrastructure activity (1.5 acres) would overlap. Therefore, the analysis set the maximum daily disturbed area during construction at 3.0 acres for the localized assessment of construction impacts.

⁸ SCAQMD 2011: Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf>

Table 3: Equipment Demolition, Site Preparation, Grading, and Infrastructure Disturbed Area Rates

Activity	Equipment Type	Equipment Quantity	Acres Disturbed per 8-hour Day	Operating Hours per Day	Acres Graded per Day
Demolition	Concrete/Industrial Saws	1	0	8	0
	Crawler Tractors	3	0.5	8	1.5
	Rubber Tired Dozers	1	0.5	8	0.5
Total: 2.0 acres					
Site Preparation	Rubber Tired Dozer	1	0.5	8	0.5
	Graders	1	0.5	8	0.5
	Crawler Tractors	1	0.5	8	0.5
Total 1.5 acres					
Grading	Rubber Tired Dozer	1	0.5	8	0.5
	Graders	1	0.5	8	0.5
	Crawler Tractors	1	0.5	8	0.5
Total 1.5 acres					
Infrastructure	Crawler Tractors	2	0.5	8	1.0
	Excavator	1	0.0	8	0.0
	Rubber Tired Dozer	1	0.5	8	0.5
Total 1.5 acres					
Source: Table 7 shows the construction inventory developed for the Site Preparation and Grading activities as derived from the CalEEMod model.					

LSTs specification depends on the distance to the nearest sensitive receptor and the duration for which a receptor may be exposed to air pollution. The SCAQMD considers a sensitive receptor to be a location such as a residence, hospital, convalescent facility where it is possible that an individual could remain for 24 hours or longer. Commercial and industrial facilities are not included in the definition of a sensitive receptor because employees do not typically remain onsite for a full 24 hours but are present for shorter periods, such as eight hours⁹.

The project location is surrounded by a mix of industrial and commercial uses. The closest sensitive receptor where such a receptor could reside for 24 hours or longer is located at existing residences located

⁹ SCAQMD 2003. Final Localized Significance Threshold Methodology. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>

about 75 meters to the south of the Project across Serrano Court. Therefore, the distance for sensitive receptors in the LST assessment was set at 75 meters for purposes of quantifying the LSTs for PM₁₀ and PM_{2.5} that require exposure time periods of 24 hours. . The shortest distance for worker receptors was set at 25 meters for purposes of quantifying the LSTs for NO₂ and CO that require exposure time periods of up to 8 hours. Table 4 provides the applicable construction LSTs for this Project.

Table 4: Construction Localized Significance Thresholds

NO _x (lbs/day)	CO (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
153	1,263	30	10
LSTs for SRA 19:project area of 3.0 acres and a receptor distance of 25 meters for NO ₂ and CO and 75 meters for PM ₁₀ and PM _{2.5} . The LSTs were interpolated from the 2 and 5 acre LSTs provided in the LST look-up tables.			

LST for Operation

As noted earlier, the SCAQMD has defined LSTs for project areas up to 5 acres in size. The Project is approximately 6 acres in size. Therefore, the LSTs for a 5 acre disturbed area were used to provide a conservative estimate of the LSTs in this assessment. Table 5 presents the operational LSTs for this Project.

Table 5: Operational Localized Significance Thresholds

NO _x (lbs/day)	CO (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
197	1,804	11	4
LSTs for SRA 19, project area of 5.0 acres and a receptor distance of 25 meters for NO ₂ and CO and 75 meers for PM ₁₀ and PM _{2.5} .			

2.1.3 Cumulative Significance Thresholds

The SCAQMD has published the following report on addressing cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (SCAQMD 2003)¹⁰. The SCAQMD considers projects that exceed the project-specific significance thresholds to be cumulatively considerable. Therefore, the project-specific and cumulative significance thresholds are the same. As a result, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

The US Environmental Protection Agency currently designates the South Coast Air Basin, where the Project is located as nonattainment for ozone, PM₁₀, and PM_{2.5}. By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The nonattainment status of regional pollutants is a result of past and present development within the air basin, and this regional impact is a cumulative impact. In other words, new development projects (such as the proposed Project) within the air basin would contribute to this impact only on a cumulative basis. No single project would

¹⁰ SCAQMD 2003. White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution

be sufficient in size, by itself, to result in nonattainment of regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects.

Therefore, the determination of cumulative air quality impacts for construction and operational emissions was based on whether the Project would result in regional emissions that exceed SCAQMD regional thresholds of significance for construction and operations on a project level. Projects that generate emissions below the SCAQMD regional significance thresholds would be considered consistent with regional air quality planning efforts and would not generate cumulatively considerable emissions.

2.2 - Criteria Pollutant Emission and Impact Estimates

2.2.1 Project Emissions

Construction

Construction emissions can vary substantially from day to day, depending on the activity level, the specific type of operation, and prevailing weather conditions. Construction emissions result from onsite and offsite activities. Onsite emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM₁₀) from disturbed soil. Additionally, paving operations and the application of architectural coatings would release VOC emissions. Motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM₁₀ and PM_{2.5}) cause Offsite emissions

Assumptions

- Construction Schedule: Construction is anticipated to commence in January 2021 and lasts for approximately 18 months. The projected occupancy is expected in the third quarter of 2022.
- Existing land will be cleared of a single-family building, various sheds, and small buildings, and trees and other vegetation
- 3,000 cubic yards of soil import required
- Fugitive dust mitigation applied as per SCAQMD Rule 403 – Fugitive Dust (2x daily watering, 12% maintenance of soil moisture, and restricting vehicle speed on unpaved surfaces to 15 miles per hour)
- Construction schedule provided by the Project Applicant
- Construction equipment inventory derived from the CalEEMod model equipment

Table 6 and Table 7 provide the Project's conceptual construction schedule and equipment inventory, respectively, based on the Project applicant's construction schedule and the default equipment provided in the CalEEMod model for the project size and land use. Table 8 presents the Project's construction vehicle trips.

Note that The construction schedule utilized in the analysis, shown in [Table 6](#), represents a "worst-case" analysis scenario. Should construction occur any time after the respective dates, impacts would

be reduced since emission factors for construction decrease as time passes due to emission regulations becoming more stringent¹¹. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines¹². The duration of construction activity was based on the information provided by the Project Applicant.

Table 6: Construction Schedule

Activity	Start Date	End Date	Total Days
Demolition	01/04/2021	01/29/2021	20
Site Preparation	01/30/2021	03/26/2021	40
Grading	03/27/2021	09/10/2021	120
Infrastructure	06/01/2021	05/30/2022	260
Building Construction	12/01/2021	05/17/2022	120
Paving	12/14/2022	01/06/2022	60
Architectural Coating	05/24/2022	06/20/2022	20
Source: see CalEEMod output			

Table 7: Construction Equipment Inventory

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor
Demolition	Concrete/Industrial Saws	1	8	212	0.43
	Crawler Tractors	3	8	158	0.38
	Rubber Tired Dozers	1	8	203	0.36
Site Preparation	Rubber Tired Dozer	1	8	247	0.40
	Graders	1	8	187	0.41
	Crawler Tractors	1	8	212	0.43
Grading	Rubber Tired Dozer	1	8	247	0.40
	Graders	1	8	187	0.41
	Crawler Tractors	1	8	212	0.43
Infrastructure	Crawler Tractors	2	8	212	0.43
	Excavator	1	8	158	0.38
	Rubber Tired LOader	1	8	203	0.36

¹¹ As shown in the CalEEMod User's Guide Version 2016.3.2, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

¹² State of California. 2019 CEQA California Environmental Quality Act. 2019

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor
Building Construction	Crane	1	7	231	0.29
	Forklifts	1	8	89	0.20
	Tractors/Loaders/Backhoes	1	7	97	0.37
	Welders	3	8	46	0.45
	Generator Set	1	8	84	0.74
Paving	Cement and Motor Mixers	1	6	9	0.56
	Tractors/Loaders/Backhoes	1	8	97	0.37
	Pavers	1	6	130	0.42
	Paving Equipment	1	8	132	0.36
	Rollers	1	7	80	0.38
Architectural Coating	Air Compressor	1	6	78	0.48
Source: see CalEEMod output					

Table 8: Construction Vehicle Trips

Activity	Construction Trips per Day		Total Trips
	Worker	Vendor	Haul
Demolition	13	0	53
Site Preparation	8	0	0
Grading	8	0	375
Infrastructure	10	0	0
Building Construction	23	9	0
Paving	13	0	0
Architectural Coating	5	0	0
Source: see CalEEMod output			

Table 9 presents the Project's estimated maximum daily regional construction emissions. As noted in Table 9, the Project's construction would not exceed the SCAQMD's regional emission significance thresholds. Table 10 presents the results of the Project's localized construction impact assessment. From Table 10, the Project's construction would not exceed the SCAQMD's construction, localized emission significance thresholds.

Table 9: Estimated Maximum Daily Regional Construction Emissions

Construction Activity	Maximum Daily Regional Emissions ⁽¹⁾ (pounds/day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
2021						
Demolition	3.2	35.6	15.6	0.0	2.0	1.5
Site Preparation	2.1	23.9	8.4	0.0	3.8	2.4
Grading	1.7	17.1	7.4	0.0	2.9	1.9
Infrastructure	1.7	20.0	10.0	0.0	0.9	0.7
Building Construction	1.9	14.5	13.8	0.0	1.0	0.8
Maximum Daily Emission	3.6 ⁽¹⁾	37.1 ⁽²⁾	23.8 ⁽²⁾	0.0	3.8 ⁽²⁾	2.6 ⁽²⁾
2022						
Infrastructure	1.5	16.8	9.7	0.0	0.7	0.6
Building	1.7	12.5	13.6	0.0	0.9	0.7
Construction Paving	0.7	6.8	9.2	0.0	0.4	0.3
Architectural Coating	3.7	1.4	1.9	0.0	0.2	0.1
Maximum Daily Emission	7.6 ⁽³⁾	37.5 ⁽³⁾	34.4 ⁽⁴⁾	0.0	2.2 ⁽³⁾	1.7 ⁽³⁾
2021 to 2022 Maximum Daily Emissions	7.6	37.5	34.4	0.0	3.8	2.8
SCAQMD Significance Thresholds	75	100	550	150	150	55
Emissions Exceed Thresholds?	No	No	No	No	No	No
Notes: ⁽¹⁾ Overlapping construction during Infrastructure+Building Construction ⁽²⁾ Overlapping construction during Grading + Infrastructure ⁽³⁾ Overlapping construction during Infrastructure+Building Construction+Paving + Architectural Coating ROG = reactive organic gases NO _x = oxides of nitrogen PM ₁₀ = particulate matter 10 microns or less in diameter PM _{2.5} = particulate matter 2.5 microns or less in diameter CO = carbon monoxide SO _x = sulfur oxides PM emissions reflect SCAQMD Rule 403 reductions Source: see CalEEMod model output						

Table 10: Estimated Maximum Daily Localized Construction Emissions

Construction Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
2021				
Demolition	34.9	15.0	1.8	1.4
Site Preparation	23.9	8.2	3.7	2.4
Grading	16.3	6.9	2.8	1.9
Infrastructure	20.0	9.7	0.8	0.7
Building Construction	13.9	12.9	0.7	0.7
Maximum Daily Emission	36.3 ⁽¹⁾	22.6 ⁽²⁾	3.8 ⁽¹⁾	2.6 ⁽¹⁾

Construction Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
2022				
Infrastructure	16.8	9.4	0.6	0.6
Building Construction	12.5	12.7	0.6	0.6
Paving	6.8	8.8	0.3	0.3
Architectural Coating	1.4	1.8	0.2	0.2
Maximum Daily Emission	37.5 ⁽³⁾	32.7 ⁽³⁾	1.6 ⁽³⁾	1.6 ⁽³⁾
2021 to 2022 Maximum Daily Emissions	37.5	32.7	3.7	2.6
SCAQMD Significance Thresholds	153	1,263	30	10
Emissions Exceed Thresholds?	No	No	No	No
Notes: ⁽¹⁾ Overlapping construction during Grading + Infrastructure ⁽²⁾ Overlapping construction during Infrastructure + Building Construction ⁽³⁾ Overlapping construction during Infrastructure + Building Construction + Paving + Architectural Coating NO _x = oxides of nitrogen PM ₁₀ = particulate matter 10 microns or less in diameter PM _{2.5} = particulate matter 2.5 microns or less in diameter CO = carbon monoxide PM emissions reflect SCAQMD Rule 403 emission reductions Source: see CalEEMod model output				

Project Operational Emissions

Assumptions

- Number of daily vehicle trips provided by the Project Trip Generation Analysis¹³
- Fleet mix provided by the Project Trip Generation Analysis
- Vehicle trip lengths provided by the Project Applicant

The Project's day-to-day operations would generate the Project's long-term emissions. Operational emissions for land use development projects are typically distinguished as mobile, area, and energy-source emissions.

Mobile-Source Emissions

Mobile-source emissions are associated with project-related automobiles and other motor vehicles that would travel to and from the project site. The vehicle emissions estimate requires information on the number of vehicle trips, vehicles mix, and the distance the vehicles travel during each trip. Following the Project's Trip Generation Analysis, the Project is expected to generate 151 daily weekday trips. [Table 11](#) provides information on the number of daily operational trips and the types of vehicles used during the Project's operation. As noted therein, approximately 50 percent of the daily trips are associated with passenger vehicles, while the remaining vehicle trips are comprised of dump trucks and boom trucks. Both the dump trucks and boom trucks are medium-heavy duty diesel trucks, as provided by the Project Applicant. Note also, each dump truck was assumed to be equipped with a wood chipper¹⁴ that is used to

¹³ Project Trip Generation Analysis, EPDS. October 20, 2020

¹⁴ The wood chippers are 130 horsepower diesel engines that are registered with the California Air Resources Board's Portable Equipment Registration Program; the Project Applicant indicates that the wood chippers are in the

reduce tree mass to wooden chips.

Table 11: Project Daily Trip Generation

Land Use	Daily Trips
Office	8
Sales	2
Maintenance	2
Supervision	12
Field Employees	51
Total Passenger Trips	75
Field Equipment	
Boom Trucks ⁽¹⁾	38
Dump Trucks ⁽¹⁾	38
Total Field Equipment	76
Total All Vehicles	151
Note: ⁽¹⁾ All field equipment was assumed to be comprised of medium-heavy duty diesel trucks 19,500 to 26,000 gross vehicle weight Source: Project Trip Generation Analysis, EPDS October 20, 2020	

The estimation of vehicle emissions also requires an estimate of the average distance each vehicle travels a day. The objective of this Project is to reduce travel time and distance. Currently, the trucks drive from Stanton, CA (Beach Boulevard and Katella Avenue) to South Orange County, approximately 28 miles one way. The Project anticipates that the one way trips from the Project to be on average 8 miles. The Project is located very close to a substantial amount of work; much is within a 4-mile radius. Therefore, it was assumed that the trip distance for the boom and dump trucks was set at 8 miles. The trip distance for workers was set at the CalEEMod model default distance of 16.6 miles.

As discussed earlier, the localized assessment of Project impacts only considers emissions generated from onsite emission-producing activities. The CalEEMod model does not separate mobile source emissions into those generated from onsite travel from offsite travel emissions. Access to the Project will be via 4 driveways, 2 to provide access to the northern part of the Project, and 2 driveways to provide access to the southern portion of the Project. Based on the project site's intended vehicle circulation plan, an average onsite trip travel distance of 0.1 miles was assumed to estimate onsite mobile source emissions for the LST operational assessment.

Area Source Emissions

Operational activities associated with the Project will result in emissions of various air pollutants.

process of being converted to gasoline, however, the emission analysis assumed each chipper was diesel-fueled; each wood chipper was assumed to operate for 4 hours per day.

Operational emissions are expected from the following area sources:

- Architectural coatings – periodic painting maintenance
- Consumer products – use of products including detergents, cleaning compounds, polishes, and lawn and garden products
- Landscape maintenance equipment – combustion and evaporation of unburned fuel from the operation of lawnmowers, grinders, blowers, trimmers, and chainsaws.

Energy Emissions

- Combustion of natural gas within buildings
- Production of electricity that takes place offsite at electrical generating facilities

Table 12 summarizes the Project's regional operational emissions along with a comparison to the SCAQMD's regional significance thresholds. As noted in Table 12, the Project's regional operational emissions are less than the regional significance thresholds.

Table 13 provides the localized operational emissions results along with a comparison to the SCAQMD localized significance thresholds. From

Table 13, the Project's localized operational emissions as substantially less than the SCAQMD localized significance thresholds.

Table 12: Estimated Maximum Daily Regional Operational Emissions

Emission Source	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	0.3	4.4	3.4	<0.1	1.6	0.5
Offroad (Chippers)	3.6	31.8	47.9	0.1	1.6	1.5
Total Project Operational Emissions	4.0	36.3	51.3	0.1	3.2	2.0
SCAQMD Significance Threshold	55	55	550	150	150	55
Exceed Threshold?	No	No	No	No	No	No
Notes: NO _x = oxides of nitrogen PM ₁₀ = particulate matter 10 microns or less in diameter ROG = reactive organic gases PM _{2.5} = particulate matter 2.5 microns or less in diameter CO = carbon monoxide Source: see CalEEMod model output						

Table 13: Estimated Maximum Daily Localized Operational Emissions

Operational Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Area	<0.1	<0.1	<0.1	<0.1
Mobile	2.0	1.3	<0.1	<0.1
Total Project Operational Emissions	2.1	1.4	0.1	0.1
SCAQMD Significance Threshold	197	1,804	11	4
Exceed Threshold?	No	No	No	No

Notes:
NO_x = oxides of nitrogen PM₁₀ = particulate matter 10 microns or less in diameter
PM_{2.5} = particulate matter 2.5 microns or less in diameter CO = carbon monoxide
Source: see CalEEMod model output

2.2.2 Cumulative Impacts

Construction

As shown above in Table 9, the Project's maximum daily regional construction emissions would not exceed SCAQMD's regional thresholds of significance. Therefore, the Project's construction emissions would not result in a cumulatively considerable incremental contribution to the existing air quality. Furthermore, all construction activities would comply with applicable SCAQMD rules and regulations, including Rule 403 to minimize fugitive PM dust emissions. Therefore, the cumulative impact of the construction of the Project would be less than significant.

Operations

As shown in Table 12 above, the Project's maximum daily operational emissions would not exceed SCAQMD's regional thresholds of significance. Therefore, the Project's operational emissions would not result in a cumulatively considerable incremental contribution to the existing air quality. The cumulative impact of the long-term operation of the Project would be less than significant.

2.3 - Conclusion

The Project's construction and operational emissions would not exceed the SCAQMD's established project level or cumulative regional or localized significance thresholds during either construction or operation. No mitigation is required.

SECTION 3: CALEEMOD EMISSION ESTIMATES - GREENHOUSE GAS EMISSIONS

This section analyzes the potential impacts on climate change from the Project's emissions of various greenhouses (GHG).

3.1 - Significance Threshold

To guide local lead agencies on assessing GHG emissions' significance in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) in September 2010¹⁵, SCAQMD identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency (SCAQMD 2010).

- Tier 1. If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.
- Tier 2. If the Project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the Project's geographic area (e.g., city or county), project-level and cumulative GHG emissions are less than significant.
- Tier 3. If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. Project-related GHG emissions include on-road transportation, energy use, water use, wastewater generation, solid waste disposal, area sources, off-road emissions, and construction activities. The SCAQMD Working Group identified that because construction activities would result in a "one-time" net increase in GHG emissions, construction activities should be amortized into the operational phase GHG emissions inventory based on the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation. SCAQMD identified a screening-level threshold of 3,000 MTCO₂e annually for all land-use types or the following land-use specific thresholds: 1,400 MTCO₂e for commercial projects, 3,500 MTCO₂e for residential projects, and 3,000 MTCO₂e for mixed-use projects. These bright-line thresholds are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their 711 CEQA projects review, 90 percent of CEQA projects would exceed the bright-line thresholds. For purposes of this assessment, a significance threshold of 3,000 MTCO₂e was used as the threshold for this assessment. Thus, and based on guidance from the SCAQMD, if a non-industrial project would emit GHGs less than 3,000 MTCO₂e per year, the Project is not considered a substantial GHG emitter and the GHG impact is less than significant, requiring no additional analysis and no mitigation. The SCAQMD's interim thresholds use the Executive Order S-3-05 goal as the basis for the

¹⁵ SCAQMD 2010. Greenhouse Gas CEQA Significance Thresholds Stakeholder Working Group Meeting #15. Website: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting)

Tier 3 screening levels. Achieving the Executive Order's objectives would contribute to worldwide efforts to cap CO₂ concentrations at 450 ppm, stabilizing global climate change.

3.2 - Project GHG Emissions

3.2.1 Construction

Table 14 summarizes the Project's construction GHG emissions. As per SCAQMD guidance, the Project's construction emissions are amortized over 30 years and added to the operational emissions to quantify the Project's total GHG emissions.

Table 14: Project Construction GHG Emissions

Activity	Annual GHG Emissions (MTCO ₂ e)
2021	393
2022	296
Total Emissions	689
Total Emissions Amortized Over 30 years	23
Source: see CalEEMod output	

3.2.2 Operations

Table 15 summarizes the Project's operational GHG emissions, along with the construction GHG emissions and the total Project GHG emissions. The Project would result in GHG emissions of 1,404 MTCO₂e per year. This level of emissions does not exceed the 3,000 MTCO₂e per year significance threshold adopted for this Project. Therefore, the Project would have a less than significant individual and cumulative impact for GHG emissions.

Table 15: Project Operational GHG Emissions

Activity	Annual GHG Emissions (MTCO ₂ e) ⁽¹⁾
Project Operational Emissions	
Area	0
Energy	21
Mobile	518
Waste	7
Water	4
Offroad (Chippers)	831
Total	1,381
Project Construction Emissions	23
Project Construction and Operation	1,404
Significance Threshold	3,000

Activity	Annual GHG Emissions (MTCO ₂ e) ⁽¹⁾
Project Exceeds Threshold?	NO
Note: CO ₂ comprises over 99 percent of the indicated CO ₂ - equivalent emissions, with the remainder consisting of methane and nitrous oxide emissions Source: see CalEEMod output	

3.3 - Consistency with Applicable Plans, Policy or Regulations Adopted for the Purpose of Reducing GHG Emissions

As noted in the previous section, the Project would not exceed the SCAQMD's recommended GHG significance threshold of 3,000 MT CO₂e per year. Because the Project would not exceed the threshold, this analysis supports the conclusion that the Project would not impede the state's trajectory toward the above-described statewide GHG reduction goals for 2030.

Notwithstanding, the analysis provided below examines the Project's consistency with the various state and local programs to reduce future GHG levels. Several plans and policies have been adopted to reduce GHG emissions in the Southern California region, including the State's 2008 and 2017 Scoping Plans, and local policies in the City's General Plan. The following subsections discuss the Project's consistency with these plans. As discussed therein, the Project would not conflict with plans and policies aimed at reducing GHG emissions. Project impacts are less than significant.

3.3.1 California Scoping Plans

The principal state plan and policy are set forth in Executive Order S-03-05, Assembly Bill (AB 32), the California Global Warming Solutions Act of 2006¹⁶, and the subsequent Senate Bill (SB 32), the California Global Warming Solutions Act of 2006¹⁷: emissions limit (2015-2016). The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. AB32 required the CARB to develop a Scoping Plan that describes California's approach to reduce GHGs to achieve the 2020 emission target. The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels as set by Executive Order B-30-15 and codified by SB 32. Executive Order No. S-3-05 established a goal of reducing the State's GHG emissions to 80 percent below the 1990 level by the year 2050. However, the Legislature and CARB have not codified this goal and have not adopted a strategy or regulations designed to meet the 2050 goal.

2008 Scoping Plan

AB32 required the ARB to prepare a scoping plan to achieve reductions in GHG emissions in California. The Scoping Plan was originally approved in 2008. In 2011, the Functional Equivalent Document for the Scoping Plan was amended. The Scoping Plan was re-approved by the Air Resources Board on August 24, 2011, including the Final Supplement to the Functional Equivalent Document (FED). The Scoping Plan provides the outline for reducing California's GHG emissions to achieve the 2020 GHG target. The Project

¹⁶ AB32 The Global Warming Solutions act of 2006. Website: <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents>

¹⁷ SB32 2016. The Global Warming Solutions act of 2006: emissions 2015-2016. Website: https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=201520160SB32

would be consistent with the applicable measures established in the 2008 Scoping Plan as shown in Table 16.

Table 16: Project Consistency with the 2008 Scoping Plan

Action	Scoping Plan Measure	Project Consistency
Cap and Trade Program		Not applicable. These programs involve capping emissions from electricity generation, industrial facilities, and broad scoped fuels.
Light-Duty Vehicle Standards	T-1	Consistent. Vehicles that access the Project will comply with the standards and with this strategy.
Energy Efficiency	E-1, E-2, CR-1,CR-2, T-6	Consistent: The Project would involve a various building, water, and solid waste efficiencies consistent with the most current CALGREEN requirements
Renewables Portfolio Standard	E-3	Not Applicable. This measure is not directly applicable to development projects, but the Project would use energy from Southern California Edison, which has committed to diversifying its portfolio of energy sources by increasing energy from wind and solar sources.
Million Solar Roofs (MSR) Program	E-4	Consistent. The MSR program sets a goal for use of solar systems throughout the state as a whole. While the Project currently does not include solar energy generation, the building roof structure would be designed to support solar panels in the future, consistent with Title 24 requirements.
Green Building Strategy	GB-1	Consistent. The Project would include various building, water, and solid waste efficiencies consistent with the current CALGreen requirements.
Low Carbon Fuel Standard	T-2	Not applicable. This is a statewide measure and is not within the purview of this Project.
Regional Transportation-Related GHG Targets	T-3	Not applicable. This is a statewide measure and is not within the purview of this Project.
Vehicle Efficiency Measures	T-4	Not applicable. Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use. This is a statewide measure and is not within the purview of this Project

Action	Scoping Plan Measure	Project Consistency
Goods Movement	T-5, T-6	Not applicable. Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. While these measures are not directly applicable to the Project, any commercial activity associated with Goods Movement would be required to comply with these measures as adopted. As such, the Project would not interfere with their implementation
Medium- & Heavy-Duty Vehicles	T-7, T-8	Not applicable. MD and HD trucks and trailers for industrial uses are be subject to aerodynamic and hybridization requirements as established by CARB; the Project would not interfere with implementation of these requirements and programs
High-Speed Rail	T-9	Not applicable. The Project does not involve elements of high-speed rail.
Industrial Emissions	I-1, I-2,I-3, I-4, I-5	Not applicable. These measures apply to large industrial facilities (>500,000 MTCO ₂ e/yr) and other intensive uses such as refineries.
Recycling and Waste	RW-1, RW-2, RW-3	Consistent. The Project would be required recycle from construction activities and Project operations per State and City requirements
Sustainable Forest	F-1	Consistent. The Project would remove dead trees and increase carbon sequestration by increasing onsite trees per the project landscaping plan.
Water	W-1, W-2, W-3, W-4 W-5, W-6	Consistent. The Project would include the use of low-flow fixtures and efficient landscaping per State requirements.
Agriculture	A-1	Not applicable. The Project is not an agricultural use
High Global Warming Potential Gases	H-1, H-2, H-3, H-4, H-5, H-6, H-7	Not applicable. The Project is not a substantial source of high GWP emissions and will comply with future air conditioning changes, fire protection suppressants, and other requirements.

2017 Scoping Plan Update

The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32, with substantial advancement towards a 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels. The Project would be consistent with the applicable measures established in the 2017 Scoping Plan Update as shown in Table 17.

Table 17: Project Consistency with the 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
SB 350 50 percent Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33percent in 2020 to 50 percent in 2030.	Not applicable. This measure is not directly applicable to development projects, but the Project would use energy from Southern California Edison, which has committed to diversifying its portfolio of energy sources by increasing energy from wind and solar sources.
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels.	Not applicable. This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency over time. The Project would comply with the applicable Title 24 Energy Efficiency Standards in effect at the time building permits are received.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	Not applicable. This is a Statewide measure that cannot be implemented by a project applicant or lead agency. However, vehicles accessing the project site would benefit from the standards.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario). Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million Zero Emission Vehicles (ZEVs) on the road by 2030 and increasing numbers of ZEV trucks and buses.	Not applicable. This measure is not applicable to the Project; however, vehicles accessing the project site would benefit from the increased availability of cleaner technology and fuels.
Sustainable Freight Action Plan The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	Not Applicable. The Project does not include freight transportation.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	Consistent. The Project would not include major sources of black carbon. This measure revolves around ARB's SLCP Reduction Strategy that was released in April 2016. As a result of SB 650, SB 650 requirements, the State will develop a strategy to reduce emissions of SLCPs. DPM reductions have come from strong efforts to reduce on-road vehicle emissions. Car and truck engines used to be the largest sources of anthropogenic black carbon emissions in California, but the State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years. These policies are based on existing technologies.

Scoping Plan Measure	Project Consistency
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled.	Not applicable. The project does not include the development of a Regional Transportation Plan.
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	Not applicable. The Project is not one targeted by the cap-and-trade system regulations, and, therefore, this measure does not apply to the Project. However, the post-2020 Cap-and-Trade Program indirectly affects people and entities who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, State, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	Not Applicable. The project site is in a built-up urban area and would not be considered natural or working lands.
Organic Waste Landfill Reduction. Develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383	Consistent. The Project would implement waste reduction and recycling measures consistent with State and City requirements. The Project would not obstruct or interfere agency efforts to support organic waste landfill reduction goals in the SLCP and SB1383.

Therefore, the Project would be consistent with the 2017 Scoping Plan.

3.3.2 City of Lake Forest

The City of Lake Forest Recreation and Resources Element of the City of Lake Forest General Plan¹⁸ includes goals, policies, and actions addressing air quality and GHG emissions (Goal RR-4). Table 18 summarizes the Project consistency with the GHG Goal RR4-Actions. As shown in Table 18, the Project is consistent with the City of Lake Forest General Plan's Recreation and Resources Element actions.

Table 18: Project Consistency with the City of Lake Forest GHG Goal RR-4 Actions

City of Lake Forest Goal RR-4 Action	Project Consistency
RR-4d. Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations (CCR), Title 24 standards as well as the energy efficiency standards established by the Lake Forest Municipal Code.	Consistent: The Project will comply with the latest regulations under Title 24, CalGreen, and the City of Lake Forest

¹⁸ City of Lake Forest General Plan, Recreation and Resources Element 2015. Website: <https://lakeforestca.gov/DocumenCenter/View/10652/Recreation-and-Resources-Element>

City of Lake Forest Goal RR-4 Action	Project Consistency
RR-4e. Monitor GHG emissions generated by the community over time for consistency with the established GHG reduction targets, and update the City's community GHG Inventory every five years. In the event that the City determines that ongoing efforts to reduce GHG emissions are not on track to meet the City's adopted GHG reduction targets, the City shall establish and adopt new and/or revised GHG reductions measures that will effectively meet the established GHG reduction targets.	Consistent: The Project will comply with any new GHG emission regulations promulgated by the City of Lake Forest.
RR-4f: Provide the necessary facilities and infrastructure to facilitate the use of City-owned low or zero-emission vehicles such as electric vehicle charging facilities and conveniently located alternative fueling stations at key City facilities as operations necessitate and/or as funding becomes available.	Not applicable. This is a City requirement
RR-4g: Evaluate and consider multi-modal transportation benefits to all City employees, such as free or low-cost monthly transit passes. Encourage employer participation in similar programs. Encourage new transit/shuttle services and use.	Consistent: The applicant indicates that several employees carpool to work each day to minimize VMT and fuel consumption.
RR-4j: Encourage community car-sharing and carpooling.	Consistent: The applicant indicates that several employees do carpool to work.
RR-4k: Establish and adopt standards and requirements for electric vehicle parking, including minimum requirements for the installation of electric vehicle charging stations in new multi-family residential and commercial, office, and light industrial development.	Consistent: The Project will provide for an electric vehicle charging stall.
RR-4l: Periodically review and update the City's Green Building Program to reflect best practices, such as encouraging the use of cement substitutes and recycled building materials for new construction.	Consistent: The Project will implement the elements of the City's Green Building Program.
RR-4m: Update the City's Green Building Program to promote the reduction of urban heat islands through vegetation management and cool surfaces. Encourage multi-family residential and non-residential development to increase the use of higher-albedo materials for surfaces including roofs, parking areas, driveways, roads, and sidewalks. Encourage developments with parking lot areas to shade these areas with vegetation or solar panels when appropriate. Support various programs to plant and maintain trees, which can also contribute to a reduction of urban heat islands.	Consistent: The Project will implement the elements of the City's Green Building Program.

City of Lake Forest Goal RR-4 Action	Project Consistency
RR-4n: Future development projects implemented under the General Plan will be required to demonstrate consistency with SCAQMD construction emission thresholds. Where emissions from individual projects exceed SCAQMD thresholds, the following actions shall be incorporated as necessary to minimize impacts. These measures do not exclude the use of other, equally effective mitigation measures. • Require a minimum of 50 percent of construction debris be diverted for recycling. • Require building materials to contain a minimum 10 percent recycled content.	Consistent: The Project will implement the construction debris and building material diversion and recycling requirements.
RR-4o: Future development projects implemented under the General Plan will be required to demonstrate consistency with SCAQMD's operational emission thresholds. For projects where operational emissions exceed regulatory thresholds, the following measures may be used to reduce impacts. Note the following measures are not all inclusive and developers have the option to add or substitute measures that are equally or more appropriate for the scope of their project. • Develop a project specific TDM program for residents and/or employees that provides opportunities for carpool/vanpools. • Provide onsite solar/renewable energy in excess of regulatory requirements. • Ensure all parking areas are wired for capability of future EV charging and include EV charging stations that exceed regulatory requirements.	Consistent. The Project applicant indicates that employees carpool to work each day to minimize VMT and fuel consumption. While the Project currently does not include solar energy generation, the building roof structure would be designed to support solar panels in the future, consistent with Title 24 requirements. The Project will provide for a EV charging station.

3.4 - Conclusion

The Project's construction and operational GHG emissions would have a less than significant individual and cumulative impact on GHG emissions. The Project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. No mitigation is required.

SECTION 4: PROJECT FUEL AND ENERGY CONSUMPTION

4.1 - Assumptions

- Construction equipment fuel consumption derived from ARB Offroad2017 emission model and the CalEEMod construction equipment
- Fuel Consumption from vehicle travel derived from ARB EMFAC2017 emission model
- Electrical and natural gas usage derived from the CalEEMod model

4.2 - Significance Thresholds

Neither Appendix F of the State CEQA Guidelines nor PRC Section 21100(b)(3)) provides a numerical threshold of significance that might be used to evaluate the potential significance of energy consumption of a proposed project. Instead, the emphasis is on reducing "the wasteful, inefficient, and unnecessary consumption of energy." Based on this focus of the guidelines, for purposes of this report, the Project would have a significant impact related to energy consumption if it would:

- Involve the wasteful, inefficient, and unnecessary consumption of energy, especially fossil fuels such as coal, natural gas, and petroleum, associated with project design, project location, the use of electricity and natural gas, and the use of fuel by vehicles anticipated to travel to and from the Project.

4.3 - Construction

4.3.1 Electricity and Natural Gas Usage

Southern California Edison Company would provide temporary electric power for as-necessary lighting and electronic equipment such as computers inside temporary construction trailers. The electricity used for such activities would be temporary and would be substantially less than that required for Project operation and would have a negligible contribution to the Project's overall energy consumption.

Natural gas is not anticipated to be required during the construction of the Project. During the construction, fuels would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection. Any minor amounts of natural gas that may be consumed as a result of Project construction would be substantially less than that required for project operation and would have a negligible contribution to the Project's overall energy consumption.

4.3.2 Petroleum Fuel Usage

Off-road heavy-duty construction equipment associated with construction activities would rely on diesel fuel, as vendors and haul trucks would be involved in delivering building materials and removing the demolition debris from the project site. Construction workers would travel to and from the Project site throughout the duration of construction. The analysis assumed that construction workers would travel to and from the site in gasoline-powered passenger vehicles. Table 17 presents the fuel usage for the off-road construction equipment. These estimates are based on the annual total fuel consumption and horsepower-hour data within the ARB OFFROAD2017 emission model for specific types of diesel

construction equipment employed in the project construction. Note that the total fuel consumption during construction computed below likely substantially overstates the amount of fuel usage. Although construction equipment and their duration are listed under a particular construction activity, there is a likelihood that not all of the inventoried equipment would operate over the entire duration of the construction activity. For example, during building construction, a crane is listed as one of the equipment's operational pieces. However, it is highly unlikely that the crane would operate over the entire duration of 120 days assumed during the building construction activity.

Table 18 summarizes the Project's construction vehicle fuel usage. The fuel usage is based on the vehicle type (worker vehicle, vendor vehicle, and haul truck), vehicle miles traveled, and fuel usage factors contained in the ARB EMFAC2017 mobile source emission model and the CalEEMod model to derive the average vehicle fuel economy, which is then used to determine the estimated annual fuel consumption associated with vehicle usage during Project construction and operational activities. Table 19 summarizes the total construction fuel consumption.

4.4 - Operational Energy Requirements

Table 20 summarizes the Project's operational energy requirements.

4.5 - Conclusion

Construction of the Project would result in fuel consumption from construction tools and equipment, vendor and haul truck trips, and vehicle trips generated from construction workers traveling to and from the site. Construction activities and corresponding fuel energy consumption would be temporary and localized. The use of diesel fuel and heavy-duty equipment would not be a typical operational condition of the Project. Also, there are no unusual project characteristics that would cause construction equipment that would be less energy efficient compared with other similar construction sites in other parts of the State. Whether it be for a household task or construction project such as the proposed Project, any construction job's rational goal is to minimize construction costs while meeting all legal requirements for doing so. Therefore, the project's construction-related fuel consumption would not result in inefficient, wasteful, or unnecessary energy use compared with other construction sites in the region.

According to CEQA Guidelines Appendix F, the goal of conserving energy implies the wise and efficient use of energy, including decreasing overall per capita energy consumption, reducing reliance on natural gas and oil, and increasing reliance on renewable energy sources. The Project would comply with all of the energy efficiency requirements under all applicable State, county, and local business and energy code ordinances. As a result, the Project's operation would not result in inefficient, wasteful, or unnecessary energy use compared with other similar residential projects in the region. No mitigation is required.

Table 19: Construction Equipment Fuel Usage

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor	Days of Construction	Total Horsepower-hours	Fuel Rate (gal/hp-hr)	Fuel Use (gallons)
Demolition	Concrete/Industrial Saws	1	8	81	0.73	20	9,461	0.021465	203
	Crawler Tractors	3	8	212	0.43	20	43,757	0.022173	970
	Rubber Tired Dozers	1	8	247	0.4	20	15,808	0.0204615	323
Site Preparation	Graders	1	8	187	0.41	40	24,534	0.021143	519
	Rubber Tired Dozer	1	8	247	0.4	40	31,616	0.020461	647
	Crawler Tractor	1	8	212	0.43	40	29,171	0.022173	647
Grading	Graders	1	8	187	0.41	120	73,603	0.021143	1,556
	Rubber Tired Dozers	1	8	247	0.4	120	94,848	0.020461	1,941
	Crawler Tractor	1	8	212	0.43	120	87,514	0.022173	1,940
Infrastructure	Crawler Tractors	2	8	212	0.43	260	379,226	0.022173	8,409
	Excavators	1	8	158	0.38	260	124,883	0.019757	2,467
	Rubber Tired Loader	1	8	203	0.36	260	152,006	0.018658	2,836
Building Construction	Crane	1	6	231	0.29	120	48,233	0.014896	718
	Forklifts	1	6	89	0.2	120	12,816	0.019105	245
	Tractors/Loaders/Backhoes	1	6	97	0.37	120	25,841	0.023965	619
	Welders	3	8	46	0.45	120	59,616	0.023965	1,429
	Generator Set	1	8	84	0.74	120	59,674	0.023965	1,430
Paving	Cement and Motor Mixers	1	6	9	0.56	80	2,419	0.021525	52
	Pavers	1	6	130	0.36	80	22,464	0.018334	412
	Paving Equipment	1	8	132	0.38	80	32,102	0.018333	589
	Tractors/Loaders/Backhoes	1	8	97	0.37	80	22,970	0.019127	439
	Rollers	1	7	80	0.38	80	17,024	0.023965	408
Architectural Coating	Air Compressor	1	6	78	0.48	20	4492.8	0.021465	96
								Total	28896

Table 20: Estimated Project Construction Vehicle Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Haul Trucks	1,269	0
Vendor Trucks	846	0
Worker Vehicles	0	3,945
Construction Vehicles Total	2,115	3,945
Source: see Construction Fuel Usage Spreadsheet		

Table 21: Total Construction Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Construction Vehicles	2,115	3,945
Off-road Construction Equipment	28,896	0
Construction Total	30,011	3,945
Source: see Construction Fuel Usage Spreadsheet		

Table 22: Project Annual Operational Energy Requirements

Operational Source (value per year)		
	Annual VMT	Gallons of Fuel
Transportation – Project	702,782 353,499(DSL) 349,283 (GAS)	3,845,529(DSL) 9,981,651(GAS)
	Thousands Kilowatt-Hours	
Electricity – Project	56,209	
	Thousands British Thermal Units	
Natural Gas – Project	134,178	
Source: see Fuel Usage Spreadsheet and CalEEMod output		

CalEEMod Model Spreadsheet Output

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Great Scott Tree Service Project

Estimate of Construction LSTs

Activity	Equipment	Number	Acres Disturbed per Total Area	
			8-hour day	Disturbed
Demolition	Concrete/Industrial Saw	1	0	0
	Crawler Tractor	3	0.5	1.5
	Rubber Tired Dozer	1	0.5	0.5
			Total	2.0
Site Preparation				
	Crawler Tractor	1	0.5	0.5
	Grader	1	0.5	0.5
	Runner Tired Dozer	1	0.5	0.5
				1.5
Grading				
	Crawler Tractor	1	0.5	0.5
	Grader	1	0.5	0.5
	Runner Tired Dozer	1	0.5	0.5
				1.5
Infrastructure				
	Crawler Tractors	2	0.5	1
	Excavator	1	0	0
	Rubber Tired Dozer	1	0.5	0.5
				1.5

Size of Maximum Daily Disturbed Construction Area: (grading+Infrastructure)

3.0 acres

Size of Maximum Daily Disturbed Operation Area:

5 acres (actual project area is approximately 6 acres)

Source Receptor Area:

19

Distance to Sensitive Receptor

75 meters for PM10 and PM2.5

Distance to Worker Receptor:

25 meters for NO2 and CO

Construction LST

Size (acres)	Distance = 25 meters		Distance = 50 meters		Distance = 100 meters		Distance = 75 meters	
	NOx (lbs/day)	CO (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
2	131	993	18	6	30	10	24	8
5	197	1804	37	11	49	16	43	14
3.0	153	1263					30	10

Estimation of Operational LSTs

Size (acres)	Distance = 25 meters		Distance = 50 meters		Distance = 100 meters		Distance = 75 meters	
	NOx (lbs/day)	CO (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
5	197	1804	9	3	12	4	11	4

Great Scott Tree Service Project

CalEEMod Construction Emission Summary

2021	Maximum Daily Emissions (pounds/day)									
	ROG	NOx	CO	SOx	PM10F	PM10Exh	PM10Total	PM2.5Fug	PM2.5 Exh	PM2.5Total
Demolition										
Onsite	3.1	34.9	15.0	0.0	0.3	1.5	1.8	0.0	1.4	1.4
Offsite	0.1	0.7	0.6	0.0	0.2	0.0	0.2	0.1	0.0	0.1
Total	3.2	35.6	15.6	0.0	0.5	1.5	2.0	0.1	1.4	1.5
Site Prep										
Onsite	2.1	23.9	8.2	0.0	2.7	1.0	3.7	1.5	0.9	2.4
Offsite	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Total	2.1	23.9	8.4	0.0	2.8	1.0	3.8	1.5	0.9	2.4
Grading										
Onsite	1.6	16.3	6.9	0.0	2.0	0.8	2.8	1.1	0.8	1.9
Offsite	0.1	0.8	0.5	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Total	1.7	17.1	7.4	0.0	2.1	0.8	2.9	1.1	0.8	1.9
Infrastructure										
Onsite	1.7	20.0	9.7	0.0	0.0	0.8	0.8	0.0	0.7	0.7
Offsite	0.0	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Total	1.7	20.0	10.0	0.0	0.1	0.8	0.9	0.0	0.7	0.7
Building Construction										
Onsite	1.8	13.6	12.9	0.0	0.0	0.7	0.7	0.0	0.7	0.7
Offsite	0.1	0.9	0.9	0.0	0.3	0.0	0.3	0.1	0.0	0.1
Total	1.9	14.5	13.8	0.0	0.3	0.7	1.0	0.1	0.7	0.8
Max Onsite: Demo, Site Prep, Grading, Infrastructure	3.1	34.9	15.0	0.0	2.7	1.5	3.7	1.5	1.4	2.4
Max Onsite: Overlap 1: Grading+Infrastructure	3.3	36.3	16.6	0.0	2.0	1.6	3.6	1.1	1.5	2.6
Max Onsite: Overlap 2: Infrastructure+Building Construction	3.5	33.6	22.6	0.0	0.0	1.5	1.5	0.0	1.4	1.4
2021 Max Onsite	3.5	36.3	22.6	0.0	2.7	1.6	3.7	1.5	1.5	2.6
Max Total: Demo, Site Prep, Grading, Infrastructure	3.2	35.6	15.6	0.0	2.8	1.5	3.8	1.5	1.4	2.4
Max Total: Overlap 1: Grading+Infrastructure	3.4	37.1	17.4	0.0	2.2	1.6	3.8	1.1	1.5	2.6
Max Total: Overlap 2: Infrastructure+Building Construction	3.6	34.5	23.8	0.0	0.4	1.5	1.9	0.1	1.4	1.5
2021 Max Total	3.6	37.1	23.8	0.0	2.8	1.6	3.8	1.5	1.5	2.6
2022	ROG	NOx	CO	SOx	PM10F	PM10Exh	PM10Total	PM2.5Fug	PM2.5 Exh	PM2.5Total
Infrastructure										
Onsite	1.5	16.8	9.4	0.0	0.0	0.6	0.6	0.0	0.6	0.6
Offsite	0.0	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Total	1.5	16.8	9.7	0.0	0.1	0.6	0.7	0.0	0.6	0.6
Building Construction										
Onsite	1.6	12.5	12.7	0.0	0.0	0.6	0.6	0.0	0.6	0.6
Offsite	0.1	0.0	0.9	0.0	0.3	0.0	0.3	0.1	0.0	0.1
Total	1.7	12.5	13.6	0.0	0.3	0.6	0.9	0.1	0.6	0.7
Paving										
Onsite	0.7	6.8	8.8	0.0	0.0	0.3	0.3	0.0	0.3	0.3
Offsite	0.0	0.0	0.4	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Total	0.7	6.8	9.2	0.0	0.1	0.3	0.4	0.0	0.3	0.3
Architectural Coating										
Onsite	3.7	1.4	1.8	0.0	0.0	0.1	0.1	0.0	0.1	0.1
Offsite	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Total	3.7	1.4	1.9	0.0	0.1	0.1	0.2	0.0	0.1	0.1
Max Onsite: Overlap 3: Infrastructure + Building Construction	3.1	29.3	22.1	0.0	0.0	1.2	1.2	0.0	1.2	1.2
Max Onsite: Overlap 4: Infrastructure+Building Construction + Paving +Architectural Coating	7.5	37.5	32.7	0.0	0.0	1.6	1.6	0.0	1.6	1.6
Max Onsite	7.5	37.5	32.7	0.0	0.0	1.6	1.6	0.0	1.6	1.6
Max Total: Architectural Coating	3.7	1.4	1.9	0.0	0.1	0.1	0.2	0.0	0.1	0.1
Max Total: Overlap 3: Infrastructure + Building Construction	3.2	29.3	23.3	0.0	0.4	1.2	1.6	0.1	1.2	1.3
Max Total: Overlap 4: Infrastructure+Building Construction + Paving + Atchitectural Coating	7.6	37.5	34.4	0.0	0.6	1.6	2.2	0.1	1.6	1.7
Max Total	7.6	37.5	34.4	0.0	0.6	1.6	2.2	0.1	1.6	1.7
2021-2022 Max Onsite (pounds/day)	7.5	37.5	32.7	0.0	2.7	1.6	3.7	1.5	1.6	2.6
2021-2022 Max Total (pounds/day)	7.6	37.5	34.4	0.0	2.8	1.6	3.8	1.5	1.6	2.6
Regional Threshold (pounds/day)	75	100	550	150			150			55
Exceeds Threshold (pounds/day)	NO	NO	NO	NO			NO			NO
Local Threshold (pounds/day)		153.0	1263.3				30.3			9.8
Exceeds Threshold (pounds/day)		NO	NO				NO			NO

Note: emissions shown as 0.0 pounds/day indicate emissions less than 0.1 pounds/day

GreatScott Lake Forest Project - Orange County, Annual

GreatScott Lake Forest Project

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.42	1000sqft	0.15	6,420.00	0
Other Non-Asphalt Surfaces	35.00	1000sqft	0.80	35,000.00	0
Parking Lot	5.60	1000sqft	0.13	5,600.00	0
City Park	0.17	Acre	0.17	7,405.20	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	534	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - SCE CO2 Emission Intensity from 2020 to 2029

Land Use -

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Use of larger equipment

Off-road Equipment - Use of larger equipment

Off-road Equipment - Use of larger equipment

Grading - Approximately 3,000 cubic yard is anticipated to be imported during construction

Vehicle Trips - City Park land use is used to represent landscape land use

Daily trips estimated from Project Trip Generation Memorandum (EPDS 10/22/2020)

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Offroad Equipment: Wood chippers accompanying the dumptrucks

Fleet Mix - Fleet Mix derived from EMFAC vehicle Class VMT data and the Project Trip Generation Memorandum

Off-road Equipment - New Citivity

Demolition - Demolition tonnage for removal of single family house, shed, and pens

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	120.00
tblConstructionPhase	NumDays	4.00	120.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	2.00	40.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00

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tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDA	0.56	0.30
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.03
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LDT2	0.21	0.10
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MDV	0.11	0.00

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tblFleetMix	MDV	0.11	0.07
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	MHD	0.03	0.50
tblFleetMix	MHD	0.03	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblGrading	AcresOfGrading	105.00	1.50
tblGrading	AcresOfGrading	40.00	1.00
tblGrading	MaterialImported	0.00	3,000.00
tblOffRoadEquipment	HorsePower	212.00	97.00

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tblOffRoadEquipment	LoadFactor	0.43	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperHorsePower	88.00	130.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	38.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	534
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	8.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	13.00	50.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	59.00	50.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	1.32	24.45

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tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	0.68	24.45
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	6.97	24.45

2.0 Emissions Summary

GreatScott Lake Forest Project - Orange County, Annual

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					
2021	0.3231	3.5652	1.6966	4.4200e-003	0.4228	0.1512	0.5739	0.2227	0.1396	0.3623	0.0000	390.0368	390.0368	0.1126	0.0000	392.8505
2022	0.2322	1.8270	1.5572	3.4000e-003	0.0271	0.0775	0.1045	7.2500e-003	0.0727	0.0799	0.0000	293.8464	293.8464	0.0725	0.0000	295.6576
Maximum	0.3231	3.5652	1.6966	4.4200e-003	0.4228	0.1512	0.5739	0.2227	0.1396	0.3623	0.0000	390.0368	390.0368	0.1126	0.0000	392.8505

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					
2021	0.3231	3.5652	1.6966	4.4200e-003	0.2035	0.1512	0.3547	0.1037	0.1396	0.2433	0.0000	390.0364	390.0364	0.1126	0.0000	392.8501
2022	0.2322	1.8270	1.5572	3.4000e-003	0.0271	0.0775	0.1045	7.2500e-003	0.0727	0.0799	0.0000	293.8461	293.8461	0.0725	0.0000	295.6573
Maximum	0.3231	3.5652	1.6966	4.4200e-003	0.2035	0.1512	0.3547	0.1037	0.1396	0.2433	0.0000	390.0364	390.0364	0.1126	0.0000	392.8501

	ROG	NOx	CO	SO2	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	48.74	0.00	32.31	51.72	0.00	26.89	0.00	0.00	0.00	0.00	0.00	0.00

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-4-2021	4-3-2021	0.9328	0.9328
2	4-4-2021	7-3-2021	0.8622	0.8622
3	7-4-2021	10-3-2021	1.1725	1.1725
4	10-4-2021	1-3-2022	0.9077	0.9077
5	1-4-2022	4-3-2022	1.2427	1.2427
6	4-4-2022	7-3-2022	0.7971	0.7971
		Highest	1.2427	1.2427

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	0.0295	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Energy	7.2000e-004	6.5800e-003	5.5200e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	20.7751	20.7751	8.8000e-004	2.8000e-004	20.8817
Mobile	0.0457	0.8080	0.6107	5.5300e-003	0.3002	2.7800e-003	0.3030	0.0856	2.6300e-003	0.0882	0.0000	518.2106	518.2106	5.2000e-003	0.0000	518.3406
Offroad	0.4689	4.1390	6.2260	9.3800e-003		0.2136	0.2136		0.1965	0.1965	0.0000	824.2204	824.2204	0.2666	0.0000	830.8846
Waste						0.0000	0.0000		0.0000	0.0000	1.6178	0.0000	1.6178	0.0956	0.0000	4.0081
Water						0.0000	0.0000		0.0000	0.0000	0.4710	5.2275	5.6985	0.0487	1.2000e-003	7.2729
Total	0.5448	4.9536	6.8429	0.0150	0.3002	0.2168	0.5170	0.0856	0.1996	0.2852	2.0888	1,368.4347	1,370.5235	0.4169	1.4800e-003	1,381.3891

GreatScott Lake Forest Project - Orange County, Annual

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	0.0295	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Energy	7.2000e-004	6.5800e-003	5.5200e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	20.7751	20.7751	8.8000e-004	2.8000e-004	20.8817
Mobile	0.0457	0.8080	0.6107	5.5300e-003	0.3002	2.7800e-003	0.3030	0.0856	2.6300e-003	0.0882	0.0000	518.2106	518.2106	5.2000e-003	0.0000	518.3406
Offroad	0.4689	4.1390	6.2260	9.3800e-003		0.2136	0.2136		0.1965	0.1965	0.0000	824.2204	824.2204	0.2666	0.0000	830.8846
Waste						0.0000	0.0000		0.0000	0.0000	1.6178	0.0000	1.6178	0.0956	0.0000	4.0081
Water						0.0000	0.0000		0.0000	0.0000	0.4710	5.2275	5.6985	0.0487	1.2000e-003	7.2729
Total	0.5448	4.9536	6.8429	0.0150	0.3002	0.2168	0.5170	0.0856	0.1996	0.2852	2.0888	1,368.4347	1,370.5235	0.4169	1.4800e-003	1,381.3891

	ROG	NOx	CO	SO2	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

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	3/26/2021	5	40	
3	Grading	Grading	3/27/2021	9/10/2021	5	120	
4	Infrastructure	Trenching	6/1/2021	5/30/2022	5	260	
5	Building Construction	Building Construction	12/1/2021	5/17/2022	5	120	
6	Paving	Paving	2/1/2022	5/23/2022	5	80	
7	Architectural Coating	Architectural Coating	5/24/2022	6/20/2022	5	20	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.93

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 9,630; Non-Residential Outdoor: 3,210; Striped Parking Area: 2,436 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crawler Tractors	3	8.00	212	0.43
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Crawler Tractors	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Grading	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Infrastructure	Excavators	1	8.00	158	0.38
Infrastructure	Crawler Tractors	2	8.00	212	0.43
Infrastructure	Rubber Tired Loaders	1	8.00	203	0.36

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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	53.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	375.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	23.00	9.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Infrastructure	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

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3.2 Demolition - 2021**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					
Fugitive Dust					5.6900e-003	0.0000	5.6900e-003	8.6000e-004	0.0000	8.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0308	0.3491	0.1502	3.8000e-004		0.0149	0.0149		0.0139	0.0139	0.0000	33.5758	33.5758	9.4300e-003	0.0000	33.8117
Total	0.0308	0.3491	0.1502	3.8000e-004	5.6900e-003	0.0149	0.0206	8.6000e-004	0.0139	0.0147	0.0000	33.5758	33.5758	9.4300e-003	0.0000	33.8117

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	1.9000e-004	6.9500e-003	1.8900e-003	2.0000e-005	4.5000e-004	2.0000e-005	4.8000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	2.0128	2.0128	2.1000e-004	0.0000	2.0181
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1924	1.1924	3.0000e-005	0.0000	1.1930
Total	6.7000e-004	7.2700e-003	5.6200e-003	3.0000e-005	1.8800e-003	3.0000e-005	1.9200e-003	5.0000e-004	3.0000e-005	5.3000e-004	0.0000	3.2052	3.2052	2.4000e-004	0.0000	3.2111

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3.2 Demolition - 2021**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					
Fugitive Dust					2.5600e-003	0.0000	2.5600e-003	3.9000e-004	0.0000	3.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0308	0.3491	0.1502	3.8000e-004		0.0149	0.0149		0.0139	0.0139	0.0000	33.5758	33.5758	9.4300e-003	0.0000	33.8116
Total	0.0308	0.3491	0.1502	3.8000e-004	2.5600e-003	0.0149	0.0175	3.9000e-004	0.0139	0.0143	0.0000	33.5758	33.5758	9.4300e-003	0.0000	33.8116

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	1.9000e-004	6.9500e-003	1.8900e-003	2.0000e-005	4.5000e-004	2.0000e-005	4.8000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	2.0128	2.0128	2.1000e-004	0.0000	2.0181
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.2000e-004	3.7300e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1924	1.1924	3.0000e-005	0.0000	1.1930
Total	6.7000e-004	7.2700e-003	5.6200e-003	3.0000e-005	1.8800e-003	3.0000e-005	1.9200e-003	5.0000e-004	3.0000e-005	5.3000e-004	0.0000	3.2052	3.2052	2.4000e-004	0.0000	3.2111

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3.3 Site Preparation - 2021**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					
Fugitive Dust					0.1210	0.0000	0.1210	0.0663	0.0000	0.0663	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4773	0.1648	4.6000e-004		0.0197	0.0197		0.0181	0.0181	0.0000	40.4495	40.4495	0.0131	0.0000	40.7766
Total	0.0410	0.4773	0.1648	4.6000e-004	0.1210	0.0197	0.1406	0.0663	0.0181	0.0843	0.0000	40.4495	40.4495	0.0131	0.0000	40.7766

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	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
Worker	5.9000e-004	3.9000e-004	4.6000e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4675	1.4675	3.0000e-005	0.0000	1.4683
Total	5.9000e-004	3.9000e-004	4.6000e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4675	1.4675	3.0000e-005	0.0000	1.4683

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3.3 Site Preparation - 2021**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					
Fugitive Dust					0.0544	0.0000	0.0544	0.0298	0.0000	0.0298	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4773	0.1648	4.6000e-004		0.0197	0.0197		0.0181	0.0181	0.0000	40.4495	40.4495	0.0131	0.0000	40.7765
Total	0.0410	0.4773	0.1648	4.6000e-004	0.0544	0.0197	0.0741	0.0298	0.0181	0.0479	0.0000	40.4495	40.4495	0.0131	0.0000	40.7765

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	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
Worker	5.9000e-004	3.9000e-004	4.6000e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4675	1.4675	3.0000e-005	0.0000	1.4683
Total	5.9000e-004	3.9000e-004	4.6000e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4675	1.4675	3.0000e-005	0.0000	1.4683

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3.4 Grading - 2021**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					
Fugitive Dust					0.2720	0.0000	0.2720	0.1491	0.0000	0.1491	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0930	0.9752	0.4134	8.7000e-004		0.0501	0.0501		0.0461	0.0461	0.0000	76.3863	76.3863	0.0247	0.0000	77.0039
Total	0.0930	0.9752	0.4134	8.7000e-004	0.2720	0.0501	0.3221	0.1491	0.0461	0.1952	0.0000	76.3863	76.3863	0.0247	0.0000	77.0039

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	1.3600e-003	0.0492	0.0134	1.4000e-004	3.2100e-003	1.5000e-004	3.3600e-003	8.8000e-004	1.4000e-004	1.0300e-003	0.0000	14.2415	14.2415	1.5000e-003	0.0000	14.2790
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7600e-003	1.1800e-003	0.0138	5.0000e-005	5.2700e-003	3.0000e-005	5.3000e-003	1.4000e-003	3.0000e-005	1.4300e-003	0.0000	4.4025	4.4025	9.0000e-005	0.0000	4.4049
Total	3.1200e-003	0.0503	0.0272	1.9000e-004	8.4800e-003	1.8000e-004	8.6600e-003	2.2800e-003	1.7000e-004	2.4600e-003	0.0000	18.6440	18.6440	1.5900e-003	0.0000	18.6839

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3.4 Grading - 2021**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					
Fugitive Dust					0.1224	0.0000	0.1224	0.0671	0.0000	0.0671	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0930	0.9752	0.4134	8.7000e-004		0.0501	0.0501		0.0461	0.0461	0.0000	76.3862	76.3862	0.0247	0.0000	77.0038
Total	0.0930	0.9752	0.4134	8.7000e-004	0.1224	0.0501	0.1725	0.0671	0.0461	0.1132	0.0000	76.3862	76.3862	0.0247	0.0000	77.0038

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	1.3600e-003	0.0492	0.0134	1.4000e-004	3.2100e-003	1.5000e-004	3.3600e-003	8.8000e-004	1.4000e-004	1.0300e-003	0.0000	14.2415	14.2415	1.5000e-003	0.0000	14.2790
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7600e-003	1.1800e-003	0.0138	5.0000e-005	5.2700e-003	3.0000e-005	5.3000e-003	1.4000e-003	3.0000e-005	1.4300e-003	0.0000	4.4025	4.4025	9.0000e-005	0.0000	4.4049
Total	3.1200e-003	0.0503	0.0272	1.9000e-004	8.4800e-003	1.8000e-004	8.6600e-003	2.2800e-003	1.7000e-004	2.4600e-003	0.0000	18.6440	18.6440	1.5900e-003	0.0000	18.6839

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3.5 Infrastructure - 2021**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	0.1289	1.5364	0.7500	2.0900e-003		0.0583	0.0583		0.0537	0.0537	0.0000	183.4445	183.4445	0.0593	0.0000	184.9278
Total	0.1289	1.5364	0.7500	2.0900e-003		0.0583	0.0583		0.0537	0.0537	0.0000	183.4445	183.4445	0.0593	0.0000	184.9278

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	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
Worker	2.8200e-003	1.9000e-003	0.0221	8.0000e-005	8.4500e-003	6.0000e-005	8.5100e-003	2.2400e-003	5.0000e-005	2.3000e-003	0.0000	7.0624	7.0624	1.5000e-004	0.0000	7.0661
Total	2.8200e-003	1.9000e-003	0.0221	8.0000e-005	8.4500e-003	6.0000e-005	8.5100e-003	2.2400e-003	5.0000e-005	2.3000e-003	0.0000	7.0624	7.0624	1.5000e-004	0.0000	7.0661

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3.5 Infrastructure - 2021**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	0.1289	1.5364	0.7500	2.0900e-003		0.0583	0.0583		0.0537	0.0537	0.0000	183.4443	183.4443	0.0593	0.0000	184.9275
Total	0.1289	1.5364	0.7500	2.0900e-003		0.0583	0.0583		0.0537	0.0537	0.0000	183.4443	183.4443	0.0593	0.0000	184.9275

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	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
Worker	2.8200e-003	1.9000e-003	0.0221	8.0000e-005	8.4500e-003	6.0000e-005	8.5100e-003	2.2400e-003	5.0000e-005	2.3000e-003	0.0000	7.0624	7.0624	1.5000e-004	0.0000	7.0661
Total	2.8200e-003	1.9000e-003	0.0221	8.0000e-005	8.4500e-003	6.0000e-005	8.5100e-003	2.2400e-003	5.0000e-005	2.3000e-003	0.0000	7.0624	7.0624	1.5000e-004	0.0000	7.0661

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3.5 Infrastructure - 2022**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	0.0783	0.8913	0.4991	1.4400e-003		0.0340	0.0340		0.0313	0.0313	0.0000	126.1517	126.1517	0.0408	0.0000	127.1717
Total	0.0783	0.8913	0.4991	1.4400e-003		0.0340	0.0340		0.0313	0.0313	0.0000	126.1517	126.1517	0.0408	0.0000	127.1717

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	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
Worker	1.8400e-003	1.1800e-003	0.0142	5.0000e-005	5.8200e-003	4.0000e-005	5.8600e-003	1.5500e-003	3.0000e-005	1.5800e-003	0.0000	4.6811	4.6811	9.0000e-005	0.0000	4.6835
Total	1.8400e-003	1.1800e-003	0.0142	5.0000e-005	5.8200e-003	4.0000e-005	5.8600e-003	1.5500e-003	3.0000e-005	1.5800e-003	0.0000	4.6811	4.6811	9.0000e-005	0.0000	4.6835

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3.5 Infrastructure - 2022**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	0.0783	0.8913	0.4991	1.4400e-003		0.0340	0.0340		0.0313	0.0313	0.0000	126.1516	126.1516	0.0408	0.0000	127.1716
Total	0.0783	0.8913	0.4991	1.4400e-003		0.0340	0.0340		0.0313	0.0313	0.0000	126.1516	126.1516	0.0408	0.0000	127.1716

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	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
Worker	1.8400e-003	1.1800e-003	0.0142	5.0000e-005	5.8200e-003	4.0000e-005	5.8600e-003	1.5500e-003	3.0000e-005	1.5800e-003	0.0000	4.6811	4.6811	9.0000e-005	0.0000	4.6835
Total	1.8400e-003	1.1800e-003	0.0142	5.0000e-005	5.8200e-003	4.0000e-005	5.8600e-003	1.5500e-003	3.0000e-005	1.5800e-003	0.0000	4.6811	4.6811	9.0000e-005	0.0000	4.6835

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3.6 Building Construction - 2021**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	0.0208	0.1568	0.1483	2.5000e-004		7.8700e-003	7.8700e-003		7.6000e-003	7.6000e-003	0.0000	20.8780	20.8780	3.7300e-003	0.0000	20.9712
Total	0.0208	0.1568	0.1483	2.5000e-004		7.8700e-003	7.8700e-003		7.6000e-003	7.6000e-003	0.0000	20.8780	20.8780	3.7300e-003	0.0000	20.9712

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	2.8000e-004	9.8600e-003	2.7600e-003	3.0000e-005	6.5000e-004	2.0000e-005	6.7000e-004	1.9000e-004	2.0000e-005	2.1000e-004	0.0000	2.4978	2.4978	2.0000e-004	0.0000	2.5028
Worker	9.7000e-004	6.5000e-004	7.6000e-003	3.0000e-005	2.9000e-003	2.0000e-005	2.9200e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.4260	2.4260	5.0000e-005	0.0000	2.4273
Total	1.2500e-003	0.0105	0.0104	6.0000e-005	3.5500e-003	4.0000e-005	3.5900e-003	9.6000e-004	4.0000e-005	1.0000e-003	0.0000	4.9237	4.9237	2.5000e-004	0.0000	4.9301

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3.6 Building Construction - 2021**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	0.0208	0.1568	0.1483	2.5000e-004		7.8700e-003	7.8700e-003		7.6000e-003	7.6000e-003	0.0000	20.8780	20.8780	3.7300e-003	0.0000	20.9711
Total	0.0208	0.1568	0.1483	2.5000e-004		7.8700e-003	7.8700e-003		7.6000e-003	7.6000e-003	0.0000	20.8780	20.8780	3.7300e-003	0.0000	20.9711

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	2.8000e-004	9.8600e-003	2.7600e-003	3.0000e-005	6.5000e-004	2.0000e-005	6.7000e-004	1.9000e-004	2.0000e-005	2.1000e-004	0.0000	2.4978	2.4978	2.0000e-004	0.0000	2.5028
Worker	9.7000e-004	6.5000e-004	7.6000e-003	3.0000e-005	2.9000e-003	2.0000e-005	2.9200e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.4260	2.4260	5.0000e-005	0.0000	2.4273
Total	1.2500e-003	0.0105	0.0104	6.0000e-005	3.5500e-003	4.0000e-005	3.5900e-003	9.6000e-004	4.0000e-005	1.0000e-003	0.0000	4.9237	4.9237	2.5000e-004	0.0000	4.9301

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3.6 Building Construction - 2022**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	0.0800	0.6064	0.6172	1.0700e-003		0.0286	0.0286		0.0276	0.0276	0.0000	88.0648	88.0648	0.0153	0.0000	88.4483
Total	0.0800	0.6064	0.6172	1.0700e-003		0.0286	0.0286		0.0276	0.0276	0.0000	88.0648	88.0648	0.0153	0.0000	88.4483

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	1.1200e-003	0.0393	0.0113	1.1000e-004	2.7500e-003	8.0000e-005	2.8200e-003	7.9000e-004	7.0000e-005	8.6000e-004	0.0000	10.4301	10.4301	8.3000e-004	0.0000	10.4508
Worker	3.8700e-003	2.4900e-003	0.0299	1.1000e-004	0.0123	8.0000e-005	0.0123	3.2500e-003	7.0000e-005	3.3200e-003	0.0000	9.8525	9.8525	2.0000e-004	0.0000	9.8574
Total	4.9900e-003	0.0418	0.0411	2.2000e-004	0.0150	1.6000e-004	0.0152	4.0400e-003	1.4000e-004	4.1800e-003	0.0000	20.2826	20.2826	1.0300e-003	0.0000	20.3082

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3.6 Building Construction - 2022**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	0.0800	0.6064	0.6172	1.0700e-003		0.0286	0.0286		0.0276	0.0276	0.0000	88.0647	88.0647	0.0153	0.0000	88.4482
Total	0.0800	0.6064	0.6172	1.0700e-003		0.0286	0.0286		0.0276	0.0276	0.0000	88.0647	88.0647	0.0153	0.0000	88.4482

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	1.1200e-003	0.0393	0.0113	1.1000e-004	2.7500e-003	8.0000e-005	2.8200e-003	7.9000e-004	7.0000e-005	8.6000e-004	0.0000	10.4301	10.4301	8.3000e-004	0.0000	10.4508
Worker	3.8700e-003	2.4900e-003	0.0299	1.1000e-004	0.0123	8.0000e-005	0.0123	3.2500e-003	7.0000e-005	3.3200e-003	0.0000	9.8525	9.8525	2.0000e-004	0.0000	9.8574
Total	4.9900e-003	0.0418	0.0411	2.2000e-004	0.0150	1.6000e-004	0.0152	4.0400e-003	1.4000e-004	4.1800e-003	0.0000	20.2826	20.2826	1.0300e-003	0.0000	20.3082

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3.7 Paving - 2022**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	0.0275	0.2710	0.3522	5.4000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	47.0785	47.0785	0.0149	0.0000	47.4516
Paving	1.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0277	0.2710	0.3522	5.4000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	47.0785	47.0785	0.0149	0.0000	47.4516

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	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
Worker	1.8000e-003	1.1600e-003	0.0139	5.0000e-005	5.7100e-003	4.0000e-005	5.7500e-003	1.5200e-003	3.0000e-005	1.5500e-003	0.0000	4.5928	4.5928	9.0000e-005	0.0000	4.5951
Total	1.8000e-003	1.1600e-003	0.0139	5.0000e-005	5.7100e-003	4.0000e-005	5.7500e-003	1.5200e-003	3.0000e-005	1.5500e-003	0.0000	4.5928	4.5928	9.0000e-005	0.0000	4.5951

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3.7 Paving - 2022**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	0.0275	0.2710	0.3522	5.4000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	47.0784	47.0784	0.0149	0.0000	47.4515
Paving	1.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0277	0.2710	0.3522	5.4000e-004		0.0139	0.0139		0.0128	0.0128	0.0000	47.0784	47.0784	0.0149	0.0000	47.4515

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	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
Worker	1.8000e-003	1.1600e-003	0.0139	5.0000e-005	5.7100e-003	4.0000e-005	5.7500e-003	1.5200e-003	3.0000e-005	1.5500e-003	0.0000	4.5928	4.5928	9.0000e-005	0.0000	4.5951
Total	1.8000e-003	1.1600e-003	0.0139	5.0000e-005	5.7100e-003	4.0000e-005	5.7500e-003	1.5200e-003	3.0000e-005	1.5500e-003	0.0000	4.5928	4.5928	9.0000e-005	0.0000	4.5951

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3.8 Architectural Coating - 2022**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					
Archit. Coating	0.0354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.0375	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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	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
Worker	1.7000e-004	1.1000e-004	1.3400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4416	0.4416	1.0000e-005	0.0000	0.4418
Total	1.7000e-004	1.1000e-004	1.3400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4416	0.4416	1.0000e-005	0.0000	0.4418

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3.8 Architectural Coating - 2022**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					
Archit. Coating	0.0354					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.0375	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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	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
Worker	1.7000e-004	1.1000e-004	1.3400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4416	0.4416	1.0000e-005	0.0000	0.4418
Total	1.7000e-004	1.1000e-004	1.3400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4416	0.4416	1.0000e-005	0.0000	0.4418

4.0 Operational Detail - Mobile

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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	0.0457	0.8080	0.6107	5.5300e-003	0.3002	2.7800e-003	0.3030	0.0856	2.6300e-003	0.0882	0.0000	518.2106	518.2106	5.2000e-003	0.0000	518.3406
Unmitigated	0.0457	0.8080	0.6107	5.5300e-003	0.3002	2.7800e-003	0.3030	0.0856	2.6300e-003	0.0882	0.0000	518.2106	518.2106	5.2000e-003	0.0000	518.3406

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Light Industry	156.97	156.97	156.97	702,782	702,782
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	156.97	156.97	156.97	702,782	702,782

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	16.60	8.40	6.90	0.00	0.00	0.00	100	0	0
General Light Industry	16.60	8.40	8.00	50.00	0.00	50.00	100	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
General Light Industry	0.297000	0.031000	0.101000	0.068000	0.000000	0.000000	0.503000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

GreatScott Lake Forest Project - Orange County, Annual

	ROG	NOx	CO	SO2	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	13.6149	13.6149	7.4000e-004	1.5000e-004	13.6789
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	13.6149	13.6149	7.4000e-004	1.5000e-004	13.6789
NaturalGas Mitigated	7.2000e-004	6.5800e-003	5.5200e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1603	7.1603	1.4000e-004	1.3000e-004	7.2028
NaturalGas Unmitigated	7.2000e-004	6.5800e-003	5.5200e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1603	7.1603	1.4000e-004	1.3000e-004	7.2028

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					
City Park	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
General Light Industry	134178	7.2000e-004	6.5800e-003	5.5200e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1603	7.1603	1.4000e-004	1.3000e-004	7.2028
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		7.2000e-004	6.5800e-003	5.5200e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1603	7.1603	1.4000e-004	1.3000e-004	7.2028

GreatScott Lake Forest Project - Orange County, Annual

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					
City Park	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
General Light Industry	134178	7.2000e-004	6.5800e-003	5.5200e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1603	7.1603	1.4000e-004	1.3000e-004	7.2028
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		7.2000e-004	6.5800e-003	5.5200e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1603	7.1603	1.4000e-004	1.3000e-004	7.2028

GreatScott Lake Forest Project - Orange County, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	54249	13.1401	7.1000e-004	1.5000e-004	13.2019
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1960	0.4748	3.0000e-005	1.0000e-005	0.4770
Total		13.6149	7.4000e-004	1.6000e-004	13.6789

GreatScott Lake Forest Project - Orange County, Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	54249	13.1401	7.1000e-004	1.5000e-004	13.2019
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1960	0.4748	3.0000e-005	1.0000e-005	0.4770
Total		13.6149	7.4000e-004	1.6000e-004	13.6789

6.0 Area Detail**6.1 Mitigation Measures Area**

GreatScott Lake Forest Project - Orange County, Annual

	ROG	NOx	CO	SO2	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	0.0295	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Unmitigated	0.0295	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0259					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Total	0.0295	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003

GreatScott Lake Forest Project - Orange County, Annual

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.5400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0259					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003
Total	0.0295	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2500e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

GreatScott Lake Forest Project - Orange County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.6985	0.0487	1.2000e-003	7.2729
Unmitigated	5.6985	0.0487	1.2000e-003	7.2729

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.202552	0.5451	3.0000e-005	1.0000e-005	0.5476
General Light Industry	1.48463 / 0	5.1534	0.0486	1.1900e-003	6.7252
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		5.6985	0.0487	1.2000e-003	7.2729

GreatScott Lake Forest Project - Orange County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.202552	0.5451	3.0000e-005	1.0000e-005	0.5476
General Light Industry	1.48463 / 0	5.1534	0.0486	1.1900e-003	6.7252
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		5.6985	0.0487	1.2000e-003	7.2729

8.0 Waste Detail**8.1 Mitigation Measures Waste**

GreatScott Lake Forest Project - Orange County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.6178	0.0956	0.0000	4.0081
Unmitigated	1.6178	0.0956	0.0000	4.0081

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.01	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
General Light Industry	7.96	1.6158	0.0955	0.0000	4.0031
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		1.6178	0.0956	0.0000	4.0081

GreatScott Lake Forest Project - Orange County, Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.01	2.0300e-003	1.2000e-004	0.0000	5.0300e-003
General Light Industry	7.96	1.6158	0.0955	0.0000	4.0031
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		1.6178	0.0956	0.0000	4.0081

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Other General Industrial Equipment	38	4.00	260	130	0.34	Diesel

GreatScott Lake Forest Project - Orange County, Annual

UnMitigated/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
Equipment Type	tons/yr										MT/yr					
Other General Industrial Equipment	0.4689	4.1390	6.2260	9.3800e-003		0.2136	0.2136		0.1965	0.1965	0.0000	824.2204	824.2204	0.2666	0.0000	830.8846
Total	0.4689	4.1390	6.2260	9.3800e-003		0.2136	0.2136		0.1965	0.1965	0.0000	824.2204	824.2204	0.2666	0.0000	830.8846

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

GreatScott Lake Forest Project - Orange County, Summer

GreatScott Lake Forest Project

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.42	1000sqft	0.15	6,420.00	0
Other Non-Asphalt Surfaces	35.00	1000sqft	0.80	35,000.00	0
Parking Lot	5.60	1000sqft	0.13	5,600.00	0
City Park	0.17	Acre	0.17	7,405.20	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	534	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

GreatScott Lake Forest Project - Orange County, Summer

Project Characteristics - SCE CO2 Emission Intensity from 2020 to 2029

Land Use -

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Use of larger equipment

Off-road Equipment - Use of larger equipment

Off-road Equipment - Use of larger equipment

Grading - Approximately 3,000 cubic yard is anticipated to be imported during construction

Vehicle Trips - City Park land use is used to represent landscape land use

Daily trips estimated from Project Trip Generation Memorandum (EPDS 10/22/2020)

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Offroad Equipment: Wood chippers accompanying the dumptrucks

Fleet Mix - Fleet Mix derived from EMFAC vehicle Class VMT data and the Project Trip Generation Memorandum

Off-road Equipment - New Citivity

Demolition - Demolition tonnage for removal of single family house, shed, and pens

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	120.00
tblConstructionPhase	NumDays	4.00	120.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	2.00	40.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00

GreatScott Lake Forest Project - Orange County, Summer

tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDA	0.56	0.30
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.03
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LDT2	0.21	0.10
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MDV	0.11	0.00

GreatScott Lake Forest Project - Orange County, Summer

tblFleetMix	MDV	0.11	0.07
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	MHD	0.03	0.50
tblFleetMix	MHD	0.03	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblGrading	AcresOfGrading	105.00	1.50
tblGrading	AcresOfGrading	40.00	1.00
tblGrading	MaterialImported	0.00	3,000.00
tblOffRoadEquipment	HorsePower	212.00	97.00

GreatScott Lake Forest Project - Orange County, Summer

tblOffRoadEquipment	LoadFactor	0.43	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperHorsePower	88.00	130.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	38.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	534
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	8.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	13.00	50.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	59.00	50.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	1.32	24.45

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tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	0.68	24.45
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	6.97	24.45

2.0 Emissions Summary

GreatScott Lake Forest Project - Orange County, Summer

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					
2021	3.6297	37.0400	23.8713	0.0549	6.1380	1.5963	7.1209	3.3368	1.4687	4.2411	0.0000	5,216.499 6	5,216.499 6	1.3346	0.0000	5,247.325 1
2022	5.2736	36.9843	32.4735	0.0696	0.5717	1.5819	2.1536	0.1529	1.4834	1.6363	0.0000	6,628.275 9	6,628.275 9	1.6363	0.0000	6,669.182 1
Maximum	5.2736	37.0400	32.4735	0.0696	6.1380	1.5963	7.1209	3.3368	1.4834	4.2411	0.0000	6,628.275 9	6,628.275 9	1.6363	0.0000	6,669.182 1

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					
2021	3.6297	37.0400	23.8713	0.0549	2.8113	1.5963	3.8916	1.5146	1.4687	2.6550	0.0000	5,216.499 6	5,216.499 6	1.3346	0.0000	5,247.325 1
2022	5.2736	36.9843	32.4735	0.0696	0.5717	1.5819	2.1536	0.1529	1.4834	1.6363	0.0000	6,628.275 9	6,628.275 9	1.6363	0.0000	6,669.182 1
Maximum	5.2736	37.0400	32.4735	0.0696	2.8113	1.5963	3.8916	1.5146	1.4834	2.6550	0.0000	6,628.275 9	6,628.275 9	1.6363	0.0000	6,669.182 1

	ROG	NOx	CO	SO2	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	49.58	0.00	34.82	52.22	0.00	26.99	0.00	0.00	0.00	0.00	0.00	0.00

GreatScott Lake Forest Project - Orange County, Summer

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	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Mobile	0.2547	4.2961	3.3998	0.0307	1.6757	0.0153	1.6910	0.4769	0.0145	0.4913		3,170.8146	3,170.8146	0.0317		3,171.6060
Offroad	3.6068	31.8387	47.8925	0.0722		1.6427	1.6427		1.5113	1.5113		6,988.8262	6,988.8262	2.2603		7,045.3344
Total	4.0272	36.1709	51.3274	0.1031	1.6757	1.6607	3.3365	0.4769	1.5285	2.0053		10,202.8995	10,202.8995	2.2929	7.9000e-004	10,260.4568

GreatScott Lake Forest Project - Orange County, Summer

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	lb/day										lb/day					
Area	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Mobile	0.2547	4.2961	3.3998	0.0307	1.6757	0.0153	1.6910	0.4769	0.0145	0.4913		3,170.8146	3,170.8146	0.0317		3,171.6060
Offroad	3.6068	31.8387	47.8925	0.0722		1.6427	1.6427		1.5113	1.5113		6,988.8262	6,988.8262	2.2603		7,045.3344
Total	4.0272	36.1709	51.3274	0.1031	1.6757	1.6607	3.3365	0.4769	1.5285	2.0053		10,202.8995	10,202.8995	2.2929	7.9000e-004	10,260.4568

	ROG	NOx	CO	SO2	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

3.0 Construction Detail**Construction Phase**

GreatScott Lake Forest Project - Orange County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	3/26/2021	5	40	
3	Grading	Grading	3/27/2021	9/10/2021	5	120	
4	Infrastructure	Trenching	6/1/2021	5/30/2022	5	260	
5	Building Construction	Building Construction	12/1/2021	5/17/2022	5	120	
6	Paving	Paving	2/1/2022	5/23/2022	5	80	
7	Architectural Coating	Architectural Coating	5/24/2022	6/20/2022	5	20	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.93

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 9,630; Non-Residential Outdoor: 3,210; Striped Parking Area: 2,436 (Architectural Coating – sqft)

OffRoad Equipment

GreatScott Lake Forest Project - Orange County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crawler Tractors	3	8.00	212	0.43
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Crawler Tractors	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Grading	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Infrastructure	Excavators	1	8.00	158	0.38
Infrastructure	Crawler Tractors	2	8.00	212	0.43
Infrastructure	Rubber Tired Loaders	1	8.00	203	0.36

GreatScott Lake Forest Project - Orange County, Summer

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	53.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	375.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	23.00	9.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Infrastructure	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

GreatScott Lake Forest Project - Orange County, Summer

3.2 Demolition - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5692	0.0000	0.5692	0.0862	0.0000	0.0862			0.0000			0.0000
Off-Road	3.0840	34.9134	15.0171	0.0383		1.4921	1.4921		1.3865	1.3865		3,701.1029	3,701.1029	1.0398		3,727.0966
Total	3.0840	34.9134	15.0171	0.0383	0.5692	1.4921	2.0613	0.0862	1.3865	1.4727		3,701.1029	3,701.1029	1.0398		3,727.0966

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	0.0191	0.6737	0.1851	2.0000e-003	0.0461	2.1200e-003	0.0483	0.0126	2.0200e-003	0.0147		223.2937	223.2937	0.0232		223.8725
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0284	0.3949	1.3700e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		136.7852	136.7852	2.9300e-003		136.8585
Total	0.0660	0.7021	0.5799	3.3700e-003	0.1915	3.0600e-003	0.1945	0.0512	2.8900e-003	0.0541		360.0790	360.0790	0.0261		360.7310

GreatScott Lake Forest Project - Orange County, Summer

3.2 Demolition - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2562	0.0000	0.2562	0.0388	0.0000	0.0388			0.0000			0.0000
Off-Road	3.0840	34.9134	15.0171	0.0383		1.4921	1.4921		1.3865	1.3865	0.0000	3,701.1029	3,701.1029	1.0398		3,727.0966
Total	3.0840	34.9134	15.0171	0.0383	0.2562	1.4921	1.7482	0.0388	1.3865	1.4253	0.0000	3,701.1029	3,701.1029	1.0398		3,727.0966

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	0.0191	0.6737	0.1851	2.0000e-003	0.0461	2.1200e-003	0.0483	0.0126	2.0200e-003	0.0147		223.2937	223.2937	0.0232		223.8725
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0284	0.3949	1.3700e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		136.7852	136.7852	2.9300e-003		136.8585
Total	0.0660	0.7021	0.5799	3.3700e-003	0.1915	3.0600e-003	0.1945	0.0512	2.8900e-003	0.0541		360.0790	360.0790	0.0261		360.7310

GreatScott Lake Forest Project - Orange County, Summer

3.3 Site Preparation - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0486	0.0000	6.0486	3.3131	0.0000	3.3131			0.0000			0.0000
Off-Road	2.0503	23.8639	8.2401	0.0230		0.9823	0.9823		0.9037	0.9037		2,229.398 3	2,229.398 3	0.7210		2,247.424 2
Total	2.0503	23.8639	8.2401	0.0230	6.0486	0.9823	7.0309	3.3131	0.9037	4.2168		2,229.398 3	2,229.398 3	0.7210		2,247.424 2

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206

GreatScott Lake Forest Project - Orange County, Summer

3.3 Site Preparation - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7219	0.0000	2.7219	1.4909	0.0000	1.4909			0.0000			0.0000
Off-Road	2.0503	23.8639	8.2401	0.0230		0.9823	0.9823		0.9037	0.9037	0.0000	2,229.398 3	2,229.398 3	0.7210		2,247.424 2
Total	2.0503	23.8639	8.2401	0.0230	2.7219	0.9823	3.7042	1.4909	0.9037	2.3946	0.0000	2,229.398 3	2,229.398 3	0.7210		2,247.424 2

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206

GreatScott Lake Forest Project - Orange County, Summer

3.4 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5327	0.0000	4.5327	2.4845	0.0000	2.4845			0.0000			0.0000
Off-Road	1.5504	16.2530	6.8892	0.0145		0.8349	0.8349		0.7681	0.7681		1,403.357 7	1,403.357 7	0.4539		1,414.704 6
Total	1.5504	16.2530	6.8892	0.0145	4.5327	0.8349	5.3676	2.4845	0.7681	3.2527		1,403.357 7	1,403.357 7	0.4539		1,414.704 6

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	0.0225	0.7944	0.2182	2.3600e-003	0.0544	2.5000e-003	0.0569	0.0149	2.3900e-003	0.0173		263.3181	263.3181	0.0273		264.0006
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	0.0514	0.8119	0.4612	3.2000e-003	0.1438	3.0800e-003	0.1469	0.0386	2.9200e-003	0.0415		347.4936	347.4936	0.0291		348.2212

GreatScott Lake Forest Project - Orange County, Summer

3.4 Grading - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0397	0.0000	2.0397	1.1180	0.0000	1.1180			0.0000			0.0000
Off-Road	1.5504	16.2530	6.8892	0.0145		0.8349	0.8349		0.7681	0.7681	0.0000	1,403.357 7	1,403.357 7	0.4539		1,414.704 6
Total	1.5504	16.2530	6.8892	0.0145	2.0397	0.8349	2.8746	1.1180	0.7681	1.8862	0.0000	1,403.357 7	1,403.357 7	0.4539		1,414.704 6

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	0.0225	0.7944	0.2182	2.3600e-003	0.0544	2.5000e-003	0.0569	0.0149	2.3900e-003	0.0173		263.3181	263.3181	0.0273		264.0006
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0289	0.0175	0.2430	8.4000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		84.1755	84.1755	1.8000e-003		84.2206
Total	0.0514	0.8119	0.4612	3.2000e-003	0.1438	3.0800e-003	0.1469	0.0386	2.9200e-003	0.0415		347.4936	347.4936	0.0291		348.2212

GreatScott Lake Forest Project - Orange County, Summer

3.5 Infrastructure - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6740	19.9533	9.7407	0.0271		0.7576	0.7576		0.6970	0.6970		2,626.1423	2,626.1423	0.8494		2,647.3760
Total	1.6740	19.9533	9.7407	0.0271		0.7576	0.7576		0.6970	0.6970		2,626.1423	2,626.1423	0.8494		2,647.3760

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0361	0.0218	0.3037	1.0600e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		105.2194	105.2194	2.2500e-003		105.2758
Total	0.0361	0.0218	0.3037	1.0600e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		105.2194	105.2194	2.2500e-003		105.2758

GreatScott Lake Forest Project - Orange County, Summer

3.5 Infrastructure - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6740	19.9533	9.7407	0.0271		0.7576	0.7576		0.6970	0.6970	0.0000	2,626.1423	2,626.1423	0.8494		2,647.3760
Total	1.6740	19.9533	9.7407	0.0271		0.7576	0.7576		0.6970	0.6970	0.0000	2,626.1423	2,626.1423	0.8494		2,647.3760

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0361	0.0218	0.3037	1.0600e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		105.2194	105.2194	2.2500e-003		105.2758
Total	0.0361	0.0218	0.3037	1.0600e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		105.2194	105.2194	2.2500e-003		105.2758

GreatScott Lake Forest Project - Orange County, Summer

3.5 Infrastructure - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4776	16.8177	9.4160	0.0271		0.6408	0.6408		0.5895	0.5895		2,623.744 3	2,623.744 3	0.8486		2,644.958 6
Total	1.4776	16.8177	9.4160	0.0271		0.6408	0.6408		0.5895	0.5895		2,623.744 3	2,623.744 3	0.8486		2,644.958 6

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0341	0.0198	0.2835	1.0200e-003	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		101.3201	101.3201	2.0500e-003		101.3713
Total	0.0341	0.0198	0.2835	1.0200e-003	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		101.3201	101.3201	2.0500e-003		101.3713

GreatScott Lake Forest Project - Orange County, Summer

3.5 Infrastructure - 2022**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4776	16.8177	9.4160	0.0271		0.6408	0.6408		0.5895	0.5895	0.0000	2,623.744 3	2,623.744 3	0.8486		2,644.958 6
Total	1.4776	16.8177	9.4160	0.0271		0.6408	0.6408		0.5895	0.5895	0.0000	2,623.744 3	2,623.744 3	0.8486		2,644.958 6

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0341	0.0198	0.2835	1.0200e-003	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		101.3201	101.3201	2.0500e-003		101.3713
Total	0.0341	0.0198	0.2835	1.0200e-003	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		101.3201	101.3201	2.0500e-003		101.3713

GreatScott Lake Forest Project - Orange County, Summer

3.6 Building Construction - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517

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	0.0240	0.8443	0.2290	2.2200e-003	0.0575	1.7500e-003	0.0593	0.0166	1.6800e-003	0.0182		241.9133	241.9133	0.0190		242.3875
Worker	0.0830	0.0502	0.6986	2.4300e-003	0.2571	1.6600e-003	0.2588	0.0682	1.5300e-003	0.0697		242.0047	242.0047	5.1800e-003		242.1342
Total	0.1070	0.8946	0.9276	4.6500e-003	0.3146	3.4100e-003	0.3180	0.0847	3.2100e-003	0.0879		483.9179	483.9179	0.0242		484.5217

GreatScott Lake Forest Project - Orange County, Summer

3.6 Building Construction - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517

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	0.0240	0.8443	0.2290	2.2200e-003	0.0575	1.7500e-003	0.0593	0.0166	1.6800e-003	0.0182		241.9133	241.9133	0.0190		242.3875
Worker	0.0830	0.0502	0.6986	2.4300e-003	0.2571	1.6600e-003	0.2588	0.0682	1.5300e-003	0.0697		242.0047	242.0047	5.1800e-003		242.1342
Total	0.1070	0.8946	0.9276	4.6500e-003	0.3146	3.4100e-003	0.3180	0.0847	3.2100e-003	0.0879		483.9179	483.9179	0.0242		484.5217

GreatScott Lake Forest Project - Orange County, Summer

3.6 Building Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581

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	0.0226	0.7988	0.2211	2.1900e-003	0.0575	1.5300e-003	0.0590	0.0166	1.4600e-003	0.0180		239.5374	239.5374	0.0184		239.9967
Worker	0.0785	0.0455	0.6520	2.3400e-003	0.2571	1.6300e-003	0.2587	0.0682	1.5000e-003	0.0697		233.0363	233.0363	4.7100e-003		233.1540
Total	0.1010	0.8443	0.8731	4.5300e-003	0.3146	3.1600e-003	0.3178	0.0847	2.9600e-003	0.0877		472.5736	472.5736	0.0231		473.1507

GreatScott Lake Forest Project - Orange County, Summer

3.6 Building Construction - 2022**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581

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	0.0226	0.7988	0.2211	2.1900e-003	0.0575	1.5300e-003	0.0590	0.0166	1.4600e-003	0.0180		239.5374	239.5374	0.0184		239.9967
Worker	0.0785	0.0455	0.6520	2.3400e-003	0.2571	1.6300e-003	0.2587	0.0682	1.5000e-003	0.0697		233.0363	233.0363	4.7100e-003		233.1540
Total	0.1010	0.8443	0.8731	4.5300e-003	0.3146	3.1600e-003	0.3178	0.0847	2.9600e-003	0.0877		472.5736	472.5736	0.0231		473.1507

GreatScott Lake Forest Project - Orange County, Summer

3.7 Paving - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.378 ₉	1,297.378 ₉	0.4113		1,307.660 ₈
Paving	4.2600e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6919	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.378₉	1,297.378₉	0.4113		1,307.660₈

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0443	0.0257	0.3685	1.3200e-003	0.1453	9.2000e-004	0.1462	0.0385	8.5000e-004	0.0394		131.7162	131.7162	2.6600e-003		131.7827
Total	0.0443	0.0257	0.3685	1.3200e-003	0.1453	9.2000e-004	0.1462	0.0385	8.5000e-004	0.0394		131.7162	131.7162	2.6600e-003		131.7827

GreatScott Lake Forest Project - Orange County, Summer

3.7 Paving - 2022**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.378 ₉	1,297.378 ₉	0.4113		1,307.660 ₈
Paving	4.2600e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6919	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.378₉	1,297.378₉	0.4113		1,307.660₈

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0443	0.0257	0.3685	1.3200e-003	0.1453	9.2000e-004	0.1462	0.0385	8.5000e-004	0.0394		131.7162	131.7162	2.6600e-003		131.7827
Total	0.0443	0.0257	0.3685	1.3200e-003	0.1453	9.2000e-004	0.1462	0.0385	8.5000e-004	0.0394		131.7162	131.7162	2.6600e-003		131.7827

GreatScott Lake Forest Project - Orange County, Summer

3.8 Architectural Coating - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.5402					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	3.7448	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856
Total	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856

GreatScott Lake Forest Project - Orange County, Summer

3.8 Architectural Coating - 2022**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.5402					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	3.7448	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856
Total	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856

4.0 Operational Detail - Mobile

GreatScott Lake Forest Project - Orange County, Summer

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	0.2547	4.2961	3.3998	0.0307	1.6757	0.0153	1.6910	0.4769	0.0145	0.4913		3,170.8146	3,170.8146	0.0317		3,171.6060
Unmitigated	0.2547	4.2961	3.3998	0.0307	1.6757	0.0153	1.6910	0.4769	0.0145	0.4913		3,170.8146	3,170.8146	0.0317		3,171.6060

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Light Industry	156.97	156.97	156.97	702,782	702,782
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	156.97	156.97	156.97	702,782	702,782

4.3 Trip Type Information

GreatScott Lake Forest Project - Orange County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	16.60	8.40	6.90	0.00	0.00	0.00	100	0	0
General Light Industry	16.60	8.40	8.00	50.00	0.00	50.00	100	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
General Light Industry	0.297000	0.031000	0.101000	0.068000	0.000000	0.000000	0.503000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

GreatScott Lake Forest Project - Orange County, Summer

	ROG	NOx	CO	SO2	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	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
NaturalGas Unmitigated	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054

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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	367.611	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054

GreatScott Lake Forest Project - Orange County, Summer

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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0.367611	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054

6.0 Area Detail**6.1 Mitigation Measures Area**

GreatScott Lake Forest Project - Orange County, Summer

	ROG	NOx	CO	SO2	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	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Unmitigated	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

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	0.0194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1419					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

GreatScott Lake Forest Project - Orange County, Summer

6.2 Area by SubCategory**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	0.0194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1419					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

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
Other General Industrial Equipment	38	4.00	260	130	0.34	Diesel

GreatScott Lake Forest Project - Orange County, Summer

UnMitigated/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
Equipment Type	lb/day										lb/day					
Other General Industrial Equipment	3.6068	31.8387	47.8925	0.0722		1.6427	1.6427		1.5113	1.5113		6,988.826 2	6,988.826 2	2.2603		7,045.334 4
Total	3.6068	31.8387	47.8925	0.0722		1.6427	1.6427		1.5113	1.5113		6,988.826 2	6,988.826 2	2.2603		7,045.334 4

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

GreatScott Lake Forest Project - Orange County, Winter

GreatScott Lake Forest Project

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.42	1000sqft	0.15	6,420.00	0
Other Non-Asphalt Surfaces	35.00	1000sqft	0.80	35,000.00	0
Parking Lot	5.60	1000sqft	0.13	5,600.00	0
City Park	0.17	Acre	0.17	7,405.20	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	534	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

GreatScott Lake Forest Project - Orange County, Winter

Project Characteristics - SCE CO2 Emission Intensity from 2020 to 2029

Land Use -

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Use of larger equipment

Off-road Equipment - Use of larger equipment

Off-road Equipment - Use of larger equipment

Grading - Approximately 3,000 cubic yard is anticipated to be imported during construction

Vehicle Trips - City Park land use is used to represent landscape land use

Daily trips estimated from Project Trip Generation Memorandum (EPDS 10/22/2020)

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Offroad Equipment: Wood chippers accompanying the dumptrucks

Fleet Mix - Fleet Mix derived from EMFAC vehicle Class VMT data and the Project Trip Generation Memorandum

Off-road Equipment - New Citivity

Demolition - Demolition tonnage for removal of single family house, shed, and pens

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	200.00	120.00
tblConstructionPhase	NumDays	4.00	120.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	2.00	40.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00

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tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDA	0.56	0.30
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.03
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LDT2	0.21	0.10
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MDV	0.11	0.00

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tblFleetMix	MDV	0.11	0.07
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	MHD	0.03	0.50
tblFleetMix	MHD	0.03	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblGrading	AcresOfGrading	105.00	1.50
tblGrading	AcresOfGrading	40.00	1.00
tblGrading	MaterialImported	0.00	3,000.00
tblOffRoadEquipment	HorsePower	212.00	97.00

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tblOffRoadEquipment	LoadFactor	0.43	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperHorsePower	88.00	130.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	38.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	534
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	8.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	13.00	50.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	59.00	50.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	1.32	24.45

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tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	0.68	24.45
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	6.97	24.45

2.0 Emissions Summary

GreatScott Lake Forest Project - Orange County, Winter

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					
2021	3.6466	37.0533	23.8161	0.0546	6.1380	1.5964	7.1209	3.3368	1.4688	4.2411	0.0000	5,191.9570	5,191.9570	1.3350	0.0000	5,222.7957
2022	5.2805	36.9908	32.3921	0.0693	0.5717	1.5820	2.1536	0.1529	1.4834	1.6363	0.0000	6,597.4266	6,597.4266	1.6366	0.0000	6,638.3415
Maximum	5.2805	37.0533	32.3921	0.0693	6.1380	1.5964	7.1209	3.3368	1.4834	4.2411	0.0000	6,597.4266	6,597.4266	1.6366	0.0000	6,638.3415

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					
2021	3.6466	37.0533	23.8161	0.0546	2.8113	1.5964	3.8917	1.5146	1.4688	2.6551	0.0000	5,191.9570	5,191.9570	1.3350	0.0000	5,222.7957
2022	5.2805	36.9908	32.3921	0.0693	0.5717	1.5820	2.1536	0.1529	1.4834	1.6363	0.0000	6,597.4266	6,597.4266	1.6366	0.0000	6,638.3415
Maximum	5.2805	37.0533	32.3921	0.0693	2.8113	1.5964	3.8917	1.5146	1.4834	2.6551	0.0000	6,597.4266	6,597.4266	1.6366	0.0000	6,638.3415

	ROG	NOx	CO	SO2	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	49.58	0.00	34.82	52.22	0.00	26.98	0.00	0.00	0.00	0.00	0.00	0.00

GreatScott Lake Forest Project - Orange County, Winter

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	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Mobile	0.2550	4.3945	3.3484	0.0303	1.6757	0.0153	1.6910	0.4769	0.0145	0.4913		3,130.3586	3,130.3586	0.0316		3,131.1491
Offroad	3.6068	31.8387	47.8925	0.0722		1.6427	1.6427		1.5113	1.5113		6,988.8262	6,988.8262	2.2603		7,045.3344
Total	4.0275	36.2693	51.2759	0.1027	1.6757	1.6608	3.3365	0.4769	1.5285	2.0053		10,162.4435	10,162.4435	2.2928	7.9000e-004	10,219.9999

GreatScott Lake Forest Project - Orange County, Winter

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	lb/day										lb/day					
Area	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Mobile	0.2550	4.3945	3.3484	0.0303	1.6757	0.0153	1.6910	0.4769	0.0145	0.4913		3,130.3586	3,130.3586	0.0316		3,131.1491
Offroad	3.6068	31.8387	47.8925	0.0722		1.6427	1.6427		1.5113	1.5113		6,988.8262	6,988.8262	2.2603		7,045.3344
Total	4.0275	36.2693	51.2759	0.1027	1.6757	1.6608	3.3365	0.4769	1.5285	2.0053		10,162.4435	10,162.4435	2.2928	7.9000e-004	10,219.9999

	ROG	NOx	CO	SO2	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

3.0 Construction Detail**Construction Phase**

GreatScott Lake Forest Project - Orange County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	3/26/2021	5	40	
3	Grading	Grading	3/27/2021	9/10/2021	5	120	
4	Infrastructure	Trenching	6/1/2021	5/30/2022	5	260	
5	Building Construction	Building Construction	12/1/2021	5/17/2022	5	120	
6	Paving	Paving	2/1/2022	5/23/2022	5	80	
7	Architectural Coating	Architectural Coating	5/24/2022	6/20/2022	5	20	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.93

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 9,630; Non-Residential Outdoor: 3,210; Striped Parking Area: 2,436 (Architectural Coating – sqft)

OffRoad Equipment

GreatScott Lake Forest Project - Orange County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crawler Tractors	3	8.00	212	0.43
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Crawler Tractors	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Grading	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Infrastructure	Excavators	1	8.00	158	0.38
Infrastructure	Crawler Tractors	2	8.00	212	0.43
Infrastructure	Rubber Tired Loaders	1	8.00	203	0.36

GreatScott Lake Forest Project - Orange County, Winter

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	53.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	375.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	23.00	9.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Infrastructure	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

GreatScott Lake Forest Project - Orange County, Winter

3.2 Demolition - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5692	0.0000	0.5692	0.0862	0.0000	0.0862			0.0000			0.0000
Off-Road	3.0840	34.9134	15.0171	0.0383		1.4921	1.4921		1.3865	1.3865		3,701.1029	3,701.1029	1.0398		3,727.0966
Total	3.0840	34.9134	15.0171	0.0383	0.5692	1.4921	2.0613	0.0862	1.3865	1.4727		3,701.1029	3,701.1029	1.0398		3,727.0966

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	0.0196	0.6816	0.1943	1.9700e-003	0.0461	2.1500e-003	0.0483	0.0126	2.0600e-003	0.0147		219.9103	219.9103	0.0237		220.5021
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275
Total	0.0727	0.7128	0.5586	3.2700e-003	0.1915	3.0900e-003	0.1945	0.0512	2.9300e-003	0.0541		349.3685	349.3685	0.0264		350.0296

GreatScott Lake Forest Project - Orange County, Winter

3.2 Demolition - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2562	0.0000	0.2562	0.0388	0.0000	0.0388			0.0000			0.0000
Off-Road	3.0840	34.9134	15.0171	0.0383		1.4921	1.4921		1.3865	1.3865	0.0000	3,701.1029	3,701.1029	1.0398		3,727.0966
Total	3.0840	34.9134	15.0171	0.0383	0.2562	1.4921	1.7482	0.0388	1.3865	1.4253	0.0000	3,701.1029	3,701.1029	1.0398		3,727.0966

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	0.0196	0.6816	0.1943	1.9700e-003	0.0461	2.1500e-003	0.0483	0.0126	2.0600e-003	0.0147		219.9103	219.9103	0.0237		220.5021
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0531	0.0312	0.3644	1.3000e-003	0.1453	9.4000e-004	0.1463	0.0385	8.7000e-004	0.0394		129.4582	129.4582	2.7700e-003		129.5275
Total	0.0727	0.7128	0.5586	3.2700e-003	0.1915	3.0900e-003	0.1945	0.0512	2.9300e-003	0.0541		349.3685	349.3685	0.0264		350.0296

GreatScott Lake Forest Project - Orange County, Winter

3.3 Site Preparation - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0486	0.0000	6.0486	3.3131	0.0000	3.3131			0.0000			0.0000
Off-Road	2.0503	23.8639	8.2401	0.0230		0.9823	0.9823		0.9037	0.9037		2,229.398 3	2,229.398 3	0.7210		2,247.424 2
Total	2.0503	23.8639	8.2401	0.0230	6.0486	0.9823	7.0309	3.3131	0.9037	4.2168		2,229.398 3	2,229.398 3	0.7210		2,247.424 2

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092

GreatScott Lake Forest Project - Orange County, Winter

3.3 Site Preparation - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7219	0.0000	2.7219	1.4909	0.0000	1.4909			0.0000			0.0000
Off-Road	2.0503	23.8639	8.2401	0.0230		0.9823	0.9823		0.9037	0.9037	0.0000	2,229.398 3	2,229.398 3	0.7210		2,247.424 2
Total	2.0503	23.8639	8.2401	0.0230	2.7219	0.9823	3.7042	1.4909	0.9037	2.3946	0.0000	2,229.398 3	2,229.398 3	0.7210		2,247.424 2

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092

GreatScott Lake Forest Project - Orange County, Winter

3.4 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5327	0.0000	4.5327	2.4845	0.0000	2.4845			0.0000			0.0000
Off-Road	1.5504	16.2530	6.8892	0.0145		0.8349	0.8349		0.7681	0.7681		1,403.3577	1,403.3577	0.4539		1,414.7046
Total	1.5504	16.2530	6.8892	0.0145	4.5327	0.8349	5.3676	2.4845	0.7681	3.2527		1,403.3577	1,403.3577	0.4539		1,414.7046

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	0.0231	0.8038	0.2291	2.3200e-003	0.0544	2.5400e-003	0.0570	0.0149	2.4300e-003	0.0173		259.3282	259.3282	0.0279		260.0260
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	0.0558	0.8230	0.4533	3.1200e-003	0.1438	3.1200e-003	0.1470	0.0386	2.9600e-003	0.0416		338.9948	338.9948	0.0296		339.7352

GreatScott Lake Forest Project - Orange County, Winter

3.4 Grading - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0397	0.0000	2.0397	1.1180	0.0000	1.1180			0.0000			0.0000
Off-Road	1.5504	16.2530	6.8892	0.0145		0.8349	0.8349		0.7681	0.7681	0.0000	1,403.357 7	1,403.357 7	0.4539		1,414.704 6
Total	1.5504	16.2530	6.8892	0.0145	2.0397	0.8349	2.8746	1.1180	0.7681	1.8862	0.0000	1,403.357 7	1,403.357 7	0.4539		1,414.704 6

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	0.0231	0.8038	0.2291	2.3200e-003	0.0544	2.5400e-003	0.0570	0.0149	2.4300e-003	0.0173		259.3282	259.3282	0.0279		260.0260
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0327	0.0192	0.2242	8.0000e-004	0.0894	5.8000e-004	0.0900	0.0237	5.3000e-004	0.0243		79.6666	79.6666	1.7100e-003		79.7092
Total	0.0558	0.8230	0.4533	3.1200e-003	0.1438	3.1200e-003	0.1470	0.0386	2.9600e-003	0.0416		338.9948	338.9948	0.0296		339.7352

GreatScott Lake Forest Project - Orange County, Winter

3.5 Infrastructure - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6740	19.9533	9.7407	0.0271		0.7576	0.7576		0.6970	0.6970		2,626.1423	2,626.1423	0.8494		2,647.3760
Total	1.6740	19.9533	9.7407	0.0271		0.7576	0.7576		0.6970	0.6970		2,626.1423	2,626.1423	0.8494		2,647.3760

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0409	0.0240	0.2803	1.0000e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		99.5832	99.5832	2.1300e-003		99.6365
Total	0.0409	0.0240	0.2803	1.0000e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		99.5832	99.5832	2.1300e-003		99.6365

GreatScott Lake Forest Project - Orange County, Winter

3.5 Infrastructure - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6740	19.9533	9.7407	0.0271		0.7576	0.7576		0.6970	0.6970	0.0000	2,626.1423	2,626.1423	0.8494		2,647.3760
Total	1.6740	19.9533	9.7407	0.0271		0.7576	0.7576		0.6970	0.6970	0.0000	2,626.1423	2,626.1423	0.8494		2,647.3760

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0409	0.0240	0.2803	1.0000e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		99.5832	99.5832	2.1300e-003		99.6365
Total	0.0409	0.0240	0.2803	1.0000e-003	0.1118	7.2000e-004	0.1125	0.0296	6.7000e-004	0.0303		99.5832	99.5832	2.1300e-003		99.6365

GreatScott Lake Forest Project - Orange County, Winter

3.5 Infrastructure - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4776	16.8177	9.4160	0.0271		0.6408	0.6408		0.5895	0.5895		2,623.7443	2,623.7443	0.8486		2,644.9586
Total	1.4776	16.8177	9.4160	0.0271		0.6408	0.6408		0.5895	0.5895		2,623.7443	2,623.7443	0.8486		2,644.9586

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0387	0.0217	0.2612	9.6000e-004	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		95.8979	95.8979	1.9400e-003		95.9463
Total	0.0387	0.0217	0.2612	9.6000e-004	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		95.8979	95.8979	1.9400e-003		95.9463

GreatScott Lake Forest Project - Orange County, Winter

3.5 Infrastructure - 2022**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4776	16.8177	9.4160	0.0271		0.6408	0.6408		0.5895	0.5895	0.0000	2,623.744 3	2,623.744 3	0.8486		2,644.958 6
Total	1.4776	16.8177	9.4160	0.0271		0.6408	0.6408		0.5895	0.5895	0.0000	2,623.744 3	2,623.744 3	0.8486		2,644.958 6

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0387	0.0217	0.2612	9.6000e-004	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		95.8979	95.8979	1.9400e-003		95.9463
Total	0.0387	0.0217	0.2612	9.6000e-004	0.1118	7.1000e-004	0.1125	0.0296	6.5000e-004	0.0303		95.8979	95.8979	1.9400e-003		95.9463

GreatScott Lake Forest Project - Orange County, Winter

3.6 Building Construction - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517

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	0.0252	0.8423	0.2512	2.1700e-003	0.0575	1.8200e-003	0.0593	0.0166	1.7400e-003	0.0183		235.9701	235.9701	0.0199		236.4675
Worker	0.0940	0.0552	0.6446	2.3000e-003	0.2571	1.6600e-003	0.2588	0.0682	1.5300e-003	0.0697		229.0414	229.0414	4.9000e-003		229.1640
Total	0.1192	0.8975	0.8958	4.4700e-003	0.3146	3.4800e-003	0.3181	0.0847	3.2700e-003	0.0880		465.0115	465.0115	0.0248		465.6315

GreatScott Lake Forest Project - Orange County, Winter

3.6 Building Construction - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517

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	0.0252	0.8423	0.2512	2.1700e-003	0.0575	1.8200e-003	0.0593	0.0166	1.7400e-003	0.0183		235.9701	235.9701	0.0199		236.4675
Worker	0.0940	0.0552	0.6446	2.3000e-003	0.2571	1.6600e-003	0.2588	0.0682	1.5300e-003	0.0697		229.0414	229.0414	4.9000e-003		229.1640
Total	0.1192	0.8975	0.8958	4.4700e-003	0.3146	3.4800e-003	0.3181	0.0847	3.2700e-003	0.0880		465.0115	465.0115	0.0248		465.6315

GreatScott Lake Forest Project - Orange County, Winter

3.6 Building Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581

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	0.0237	0.7964	0.2422	2.1400e-003	0.0575	1.5800e-003	0.0591	0.0166	1.5200e-003	0.0181		233.6304	233.6304	0.0192		234.1113
Worker	0.0891	0.0500	0.6007	2.2100e-003	0.2571	1.6300e-003	0.2587	0.0682	1.5000e-003	0.0697		220.5651	220.5651	4.4500e-003		220.6764
Total	0.1128	0.8464	0.8429	4.3500e-003	0.3146	3.2100e-003	0.3178	0.0847	3.0200e-003	0.0877		454.1955	454.1955	0.0237		454.7877

GreatScott Lake Forest Project - Orange County, Winter

3.6 Building Construction - 2022**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581

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	0.0237	0.7964	0.2422	2.1400e-003	0.0575	1.5800e-003	0.0591	0.0166	1.5200e-003	0.0181		233.6304	233.6304	0.0192		234.1113
Worker	0.0891	0.0500	0.6007	2.2100e-003	0.2571	1.6300e-003	0.2587	0.0682	1.5000e-003	0.0697		220.5651	220.5651	4.4500e-003		220.6764
Total	0.1128	0.8464	0.8429	4.3500e-003	0.3146	3.2100e-003	0.3178	0.0847	3.0200e-003	0.0877		454.1955	454.1955	0.0237		454.7877

GreatScott Lake Forest Project - Orange County, Winter

3.7 Paving - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.378 ₉	1,297.378 ₉	0.4113		1,307.660 ₈
Paving	4.2600e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6919	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.378₉	1,297.378₉	0.4113		1,307.660₈

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0503	0.0283	0.3395	1.2500e-003	0.1453	9.2000e-004	0.1462	0.0385	8.5000e-004	0.0394		124.6672	124.6672	2.5200e-003		124.7301
Total	0.0503	0.0283	0.3395	1.2500e-003	0.1453	9.2000e-004	0.1462	0.0385	8.5000e-004	0.0394		124.6672	124.6672	2.5200e-003		124.7301

GreatScott Lake Forest Project - Orange County, Winter

3.7 Paving - 2022**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.378 ₉	1,297.378 ₉	0.4113		1,307.660 ₈
Paving	4.2600e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.6919	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.378₉	1,297.378₉	0.4113		1,307.660₈

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0503	0.0283	0.3395	1.2500e-003	0.1453	9.2000e-004	0.1462	0.0385	8.5000e-004	0.0394		124.6672	124.6672	2.5200e-003		124.7301
Total	0.0503	0.0283	0.3395	1.2500e-003	0.1453	9.2000e-004	0.1462	0.0385	8.5000e-004	0.0394		124.6672	124.6672	2.5200e-003		124.7301

GreatScott Lake Forest Project - Orange County, Winter

3.8 Architectural Coating - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.5402					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	3.7448	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731
Total	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731

GreatScott Lake Forest Project - Orange County, Winter

3.8 Architectural Coating - 2022**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	3.5402					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	3.7448	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731
Total	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731

4.0 Operational Detail - Mobile

GreatScott Lake Forest Project - Orange County, Winter

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	0.2550	4.3945	3.3484	0.0303	1.6757	0.0153	1.6910	0.4769	0.0145	0.4913		3,130.3586	3,130.3586	0.0316		3,131.1491
Unmitigated	0.2550	4.3945	3.3484	0.0303	1.6757	0.0153	1.6910	0.4769	0.0145	0.4913		3,130.3586	3,130.3586	0.0316		3,131.1491

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Light Industry	156.97	156.97	156.97	702,782	702,782
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	156.97	156.97	156.97	702,782	702,782

4.3 Trip Type Information

GreatScott Lake Forest Project - Orange County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	16.60	8.40	6.90	0.00	0.00	0.00	100	0	0
General Light Industry	16.60	8.40	8.00	50.00	0.00	50.00	100	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
General Light Industry	0.297000	0.031000	0.101000	0.068000	0.000000	0.000000	0.503000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

GreatScott Lake Forest Project - Orange County, Winter

	ROG	NOx	CO	SO2	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	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
NaturalGas Unmitigated	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054

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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	367.611	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054

GreatScott Lake Forest Project - Orange County, Winter

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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0.367611	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054

6.0 Area Detail**6.1 Mitigation Measures Area**

GreatScott Lake Forest Project - Orange County, Winter

	ROG	NOx	CO	SO2	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	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Unmitigated	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

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	0.0194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1419					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

GreatScott Lake Forest Project - Orange County, Winter

6.2 Area by SubCategory**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	0.0194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1419					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

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
Other General Industrial Equipment	38	4.00	260	130	0.34	Diesel

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UnMitigated/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
Equipment Type	lb/day										lb/day					
Other General Industrial Equipment	3.6068	31.8387	47.8925	0.0722		1.6427	1.6427		1.5113	1.5113		6,988.826 2	6,988.826 2	2.2603		7,045.334 4
Total	3.6068	31.8387	47.8925	0.0722		1.6427	1.6427		1.5113	1.5113		6,988.826 2	6,988.826 2	2.2603		7,045.334 4

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

GreatScott Lake Forest Project - Operational LST

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.42	1000sqft	0.15	6,420.00	0
Other Non-Asphalt Surfaces	35.00	1000sqft	0.80	35,000.00	0
Parking Lot	5.60	1000sqft	0.13	5,600.00	0
City Park	0.17	Acre	0.17	7,405.20	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	534	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

Project Characteristics - SCE CO2 Emission Intensity from 2020 to 2029

Land Use -

Construction Phase - Operations only

Off-road Equipment -

Off-road Equipment - Operations Only

Trips and VMT - OPERATIONS Only

Demolition - Demolition tonnage for removal of single family house, shed, and pens

Grading - Operations Only

Vehicle Trips - Onsite vehicle travel only

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Offroad Equipment: Wood chippers accompanying the dumptrucks

Fleet Mix - Fleet Mix derived from EMFAC vehicle Class VMT data and the Project Rip Generation Memorandum

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	1.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDA	0.56	0.30
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.03

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tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LDT2	0.21	0.10
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.07
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MHD	0.03	0.00

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tblFleetMix	MHD	0.03	0.50
tblFleetMix	MHD	0.03	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOperationalOffRoadEquipment	OperHorsePower	88.00	130.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	534
tblVehicleTrips	CC_TL	8.40	0.10
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.10
tblVehicleTrips	CNW_TTP	19.00	0.00

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tblVehicleTrips	CNW_TTP	13.00	50.00
tblVehicleTrips	CW_TL	16.60	0.10
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	59.00	50.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	1.32	24.45
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	0.68	24.45
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	6.97	24.45

2.0 Emissions Summary

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

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					
2021	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
Maximum	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

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					
2021	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
Maximum	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

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

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	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Mobile	0.1381	1.9966	1.3066	7.1000e-004	0.0136	6.9000e-004	0.0143	3.8800e-003	6.4000e-004	4.5200e-003		70.0675	70.0675	0.0127		70.3858
Offroad	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	0.3038	2.0327	1.3417	9.3000e-004	0.0136	3.4500e-003	0.0171	3.8800e-003	3.4000e-003	7.2800e-003		113.3261	113.3261	0.0136	7.9000e-004	113.9021

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

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	lb/day										lb/day					
Area	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Energy	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Mobile	0.1381	1.9966	1.3066	7.1000e-004	0.0136	6.9000e-004	0.0143	3.8800e-003	6.4000e-004	4.5200e-003		70.0675	70.0675	0.0127		70.3858
Offroad	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	0.3038	2.0327	1.3417	9.3000e-004	0.0136	3.4500e-003	0.0171	3.8800e-003	3.4000e-003	7.2800e-003		113.3261	113.3261	0.0136	7.9000e-004	113.9021

	ROG	NOx	CO	SO2	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

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/4/2021	5	1	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 0**

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Acres of Paving: 0.93**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	0	8.00	212	0.43
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

3.2 Site Preparation - 2021**Unmitigated Construction On-Site**

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

Unmitigated Construction Off-Site

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

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

3.2 Site Preparation - 2021**Mitigated Construction On-Site**

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

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

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	0.1381	1.9966	1.3066	7.1000e-004	0.0136	6.9000e-004	0.0143	3.8800e-003	6.4000e-004	4.5200e-003		70.0675	70.0675	0.0127		70.3858
Unmitigated	0.1381	1.9966	1.3066	7.1000e-004	0.0136	6.9000e-004	0.0143	3.8800e-003	6.4000e-004	4.5200e-003		70.0675	70.0675	0.0127		70.3858

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Light Industry	156.97	156.97	156.97	5,714	5,714
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	156.97	156.97	156.97	5,714	5,714

4.3 Trip Type Information

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	16.60	8.40	6.90	0.00	0.00	0.00	100	0	0
General Light Industry	0.10	0.10	0.10	50.00	0.00	50.00	100	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
General Light Industry	0.297000	0.031000	0.101000	0.068000	0.000000	0.000000	0.503000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Parking Lot	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

	ROG	NOx	CO	SO2	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	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
NaturalGas Unmitigated	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054

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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	367.611	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054

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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					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	0.367611	3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		3.9600e-003	0.0360	0.0303	2.2000e-004		2.7400e-003	2.7400e-003		2.7400e-003	2.7400e-003		43.2484	43.2484	8.3000e-004	7.9000e-004	43.5054

6.0 Area Detail**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	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	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Unmitigated	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

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	0.0194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1419					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

6.2 Area by SubCategory**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	0.0194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1419					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5000e-004	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110
Total	0.1617	4.0000e-005	4.8300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0103	0.0103	3.0000e-005		0.0110

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
Other General Industrial Equipment	0	4.00	260	130	0.34	Diesel

GreatScott Lake Forest Project - Operational LST - Orange County, Winter

UnMitigated/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
Equipment Type	lb/day										lb/day					
Other General Industrial Equipment	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

10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Great Scott Tree Service Project

Construction Equipment Fuel Usage

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor	Days of Construction	Total Horsepower-hours	Fuel Rate (gal/hp-hr)	Fuel Use (gallons)
Demolition	Concrete/Industrial Saws	1	8	81	0.73	20	9,461	0.021465	203
	Crawler Tractors	3	8	212	0.43	20	43,757	0.022173	970
	Rubber Tired Dozers	1	8	247	0.4	20	15,808	0.020461498	323
Site Preparation	Graders	1	8	187	0.41	40	24,534	0.021143	519
	Rubber Tired Dozer	1	8	247	0.4	40	31,616	0.020461	647
	Crawler Tractor	1	8	212	0.43	40	29,171	0.022173	647
Grading	Graders	1	8	187	0.41	120	73,603	0.021143	1,556
	Rubber Tired Dozers	1	8	247	0.4	120	94,848	0.020461	1,941
	Crawler Tractor	1	8	212	0.43	120	87,514	0.022173	1,940
Infrastructure	Crawler Tractors	2	8	212	0.43	260	379,226	0.022173	8,409
	Excavators	1	8	158	0.38	260	124,883	0.019757	2,467
	Rubber Tired Loader	1	8	203	0.36	260	152,006	0.018658	2,836
Building Construction	Crane	1	6	231	0.29	120	48,233	0.014896	718
	Forklifts	1	6	89	0.2	120	12,816	0.019105	245
	Tractors/Loaders/Backhoes	1	6	97	0.37	120	25,841	0.023965	619
	Welders	3	8	46	0.45	120	59,616	0.023965	1,429
	Generator Set	1	8	84	0.74	120	59,674	0.023965	1,430
Paving	Cement and Motor Mixers	1	6	9	0.56	80	2,419	0.021525	52
	Pavers	1	6	130	0.36	80	22,464	0.018334	412
	Paving Equipment	1	8	132	0.38	80	32,102	0.018333	589
	Tractors/Loaders/Backhoes	1	8	97	0.37	80	22,970	0.019127	439
	Rollers	1	7	80	0.38	80	17,024	0.023965	408
Architectural Coating	Air Compressor	1	6	78	0.48	20	4492.8	0.021465	96

Total 28896

Fuel Consumption rates derived from the ARB OFFROAD2017 - Orion Web Database

Great Scott Tree Service Project

Fuel Consumption from Construction Vehicles (Derived from the ARB EMFAC2017 Mobile Source Emission Model)

Emission Factors

Region (County)	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VTM (miles/day)	Fuel Consumption (1000 gallons/day)	Fuel Rate (miles/gallon)
ORANGE	2022	MHDT-T6	Aggregated	Aggregated	DSL	1862214	171.2	10.9
ORANGE	2022	HHDT-T7	Aggregated	Aggregated	DSL	1250868	185.5	6.7
Average (50%/50%)							8.8	
ORANGE	2022	LDA	Aggregated	Aggregated	GAS	49671090	1565	31.7
ORANGE	2022	LDT1	Aggregated	Aggregated	GAS	5238639	192	27.3
ORANGE	2022	LDT2	Aggregated	Aggregated	GAS	16909367	671	25.2
ORANGE	2022	MDV	Aggregated	Aggregated	GAS	11130322	546	20.4
Average (50%/25%/25%)							29	

Vehicle Assumptions (CalEEMod)

Haul trucks represented by HHDT-T7 (heavy -heavy duty haul truck)

MHDT-T6 (medium heavy duty haul truck)

Vendor trucks assumed to be 50% HHDT-T7 and MHDT-T6)

LDA (light duty automobile for worker vehicles)

LDT1 (light duty truck 1 for worker vehicles)

LDT2 (light duty truck 2 for worker vehicles)

Worker vehicles represented as 50% LDT, 25% LHT1, and 25% LDT2

Construction Vehicle Use (Derived from the CalEEMod model output)

Fuel Consumption for Haul Trucks

Construction Activity	No Haul Truck Trips	Trip Length	VTM (miles)	DSL Fuel (gallons)
Demolition	53	20	1060	157
Site Preparation	0	20	0	0
Grading	375	20	7500	1112
Infrastructure	0	20	0	0
Building Construction	0	20	0	0
Paving -	0	20	0	0
Architectural Coating	0	20	0	0
Total	428		8560	1269

Fuel Consumption for Vendor Trucks

Construction Activity	No Vendor Truck Trips/day	Duration (days)	Trip Length (miles)	VTM (miles)	Fuel	Fuel Rate (miles/gallon)	DSL Fuel (gallons)
Demolition	0	20	6.9	0	DSL	8.8	0
Site Preparation	0	40	6.9	0	DSL	8.8	0
Grading	0	120	6.9	0	DSL	8.8	0
Infrastructure	0	260	6.9	0	DSL	8.8	0
Building Construction	9	120	6.9	7452	DSL	8.8	846
Paving	0	60	6.9	0	DSL	8.8	0
Architectural Coating	0	20	6.9	0	DSL	8.8	0
Total				7452			846

Fuel Consumption for Worker Vehicles

Activity	No Worker Vehicles Trips/day	Duration (days)	Trip Length (miles)	VTM (miles)	Fuel	Fuel Rate (miles/gallon)	Gas Fuel (gallons)
Demolition	13	20	14.7	3822	GAS	29	132
Site Preparation	8	40	14.7	4704	GAS	29	162
Grading	8	120	14.7	14112	GAS	29	487
Infrastructure	10	260	14.7	38220	GAS	29	1318
Building Construction	23	120	14.7	40572	GAS	29	1400
Paving	13	60	14.7	11466	GAS	29	396
Architectural Coating	5	20	14.7	1470	GAS	29	51
Total -DSL				114366			3945

Summary	Gallons
Total -DSL	2115
Total - GAS	3945
	6060

Great Scott Tree Service Project

Estimation of Operational Vehicle Fuel Use

Annual Operational VMT		702782 miles per year		
	Fleet Mix	% Total From CalEEMod	Annual VMT (miles/year)	Fuel Rate (miles/gallon)
LDA		30%	208,726	31.7
LDT1		3%	21,786	27.3
LDT2		10%	70,981	25.2
MDV		7%	47,789	20.4
MHDT		50%	353,499	10.9
		100%	702,782	
VMT Total-GAS		349,283	miles/year	
VMT Total-DSL		353,499	miles/year	
		702,782	miles/year	
Fuel - GAS		9,981,651	gallons/year	
Fuel - DSL		3,845,529	gallons/year	

Note 1: Average fuel rate taken from the Construction Vehicle Fuel Use Worksheet

Annual Fuel Use (gallons/year)	Fuel
6,626,163	GAS
594,109	GAS
1,787,978	GAS
973,401	GAS
3,845,529	DSL