HELIX Environmental Planning

Oceanside Sewer Improvements Program

Air Quality, Greenhouse Gas Emissions, and Energy Technical Report

May 2025 | 01354.00005.001

Prepared for:

City of Oceanside
Water Utilities Department
300 North Coast Highway
Oceanside, CA 92054

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AQIA	Air Quality Impact Assessment
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act of 1988
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH_4	methane
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
County	County of San Diego
CUP	Conditional Use Permit
DPM	diesel particulate matter
EO	Executive Order
GHG	greenhouse gas
H_2S	hydrogen sulfide
HFC	hydrofluorocarbons
HIA	hazard index acute
HIC	hazard index chronic
HP	horsepower
IPCC	Intergovernmental Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
kW	kilowatt
LCFS	Low Carbon Fuel Standard
LOS	level of service
LSWWTP	La Salina Wastewater Treatment Plant

ACRONYMS AND ABBREVIATIONS (cont.)

MEI	maximally exposed individual
MMBTU	million British Thermal Units
MMT	million metric tons
MT	metric tons
MWh	megawatt-hours
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NPDES	National Pollutant Discharge Elimination System
NOAA	National Oceanic and Atmospheric Administration
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OLO	Oceanside Land Outfall
Pb	lead
PEIR	Programmatic Environmental Impact Report
PFC	perfluorocarbon
PM_{10}	respirable particulate matter
$PM_{2.5}$	fine particulate matter
ppm	parts per million
ROG	reactive organic gas
RPS	Renewable Portfolio Standard
SCAQMD	South Coast Air Quality Management District
SDAPCD	San Diego Air Pollution Control District
SDAB	San Diego Air Basin
SF	square foot/feet
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLRWRF	San Luis Rey Water Reclamation Facility
SO_2	sulfur dioxide
SR	State Route
TACs	toxic air contaminants
TSS	total suspended solids
USEPA	U.S. Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compound

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EXECUTIVE SUMMARY

This report presents an assessment of potential air quality, greenhouse gas (GHG) emission, and energy consumption impacts during construction and operation of the Oceanside Sewer Improvements Program (Program) in the City of Oceanside, San Diego County, California. The proposed Program generally consists of implementing multiple individual sewer utility improvement projects spanning a linear alignment from the San Luis Rey Water Reclamation Facility (SLRWRF) to the Pacific Ocean. The proposed Program includes underground improvements, as well as above ground construction of a new lift station.

The Program would result in emissions of criteria air pollutants during construction and operation. Construction emissions include fugitive dust, heavy construction equipment exhaust, and vehicle trips associated with workers commuting to and from the site and trucks hauling materials. Construction would comply with San Diego Air Pollution Control District (SDAPCD) Rule 55, Fugitive Dust Control. Operational emissions associated with the Program would include pollutants associated with a new emergency generator. Program emissions of criteria pollutants during general construction activities would not exceed SDAPCD significance thresholds. Operational emissions would be below SDAPCD significance thresholds. In addition, the Program would be consistent with air quality policies set forth by the SDAPCD as presented in the most recent Ozone Attainment Plan.

Program-generated traffic would not result in a carbon monoxide hot spot. Construction and operation of the Program would not result in exposure of sensitive receptors to significant quantities of toxic air contaminants (TACs). In addition, with incorporation of odor control measures to reduce hydrogen sulfide emissions to negligible levels, and conformance with SDAPCD Rule 51, the Program would have less than significant odor impacts.

Construction sources of GHG emissions include heavy construction equipment and worker vehicle trips. Operational sources of GHG emissions sources include stationary equipment and energy use. The Program-related construction activities are estimated to generate 1,959 metric tons (MT) of carbon dioxide equivalent (CO_2e). Construction emissions are amortized over 20 years, such that the proposed construction activities would contribute an average of 98 MT per year of CO_2e emissions. The Program-related operational and amortized construction GHG emissions are estimated to generate 162 MT CO_2e. Program emissions would remain below the City's GHG screening threshold of 900 MT CO_2e.

The Program would avoid or reduce inefficient, wasteful, or unnecessary consumption of energy. The Program is anticipated to have an energy use demand of 2,736 million BTU per year. The Program's demand on energy resources and services would not be anticipated to require the construction of new energy facilities or require improvements to local infrastructure. Therefore, impacts related to inconsistency with adopted plans and policies and energy waste would be less than significant.

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1.0 INTRODUCTION

HELIX Environmental Planning, Inc. (HELIX) was contracted by Infrastructure Engineering Corporation to conduct air quality, greenhouse gas emissions, and energy consumption analyses for the City of Oceanside's (City's) Oceanside Sewer Improvements Program (Program) in the City of Oceanside, San Diego County, California. This report details the methods and results of the analyses and has been prepared to comply with the California Environmental Quality Act (CEQA), the federal Clean Air Act (CAA) General Conformity Rule, and City guidelines.

1.1 PROGRAM LOCATION

The Program is located in the City of Oceanside in northwestern San Diego County (Figure 1, *Regional Location*). The Program is located within Sections 5, 6, 7, 8, 18, and 19 of Township 11 South, Range 4 West, and Sections 24, 25, 26, and 35 of Township 11 South, Range 5 West, on the U.S. Geological Survey (USGS) 7.5' San Luis Rey quadrangle (Figure 2, *USGS Topography*). The Program alignment spans approximately seven miles from the existing San Luis Rey Water Reclamation Facility (SLRWRF) (located at 3950 North River Road) in the northeast to the existing La Salina Wastewater Treatment Plant (LSWWTP) (located at 1300 S. Myers Street) in the southwest. From the SLRWRF, the alignment generally extends southwest along Whalen Lake Road, crosses the San Luis Rey River corridor, continues to the south-southeast, crossing San Luis Rey Mission Expressway (State Route [SR] 76) and Mission Avenue, Hacienda Drive, Las Vegas Drive, and other residential streets, and continues southwest through Garrison Avenue to Oceanside Boulevard. The alignment then follows Oceanside Boulevard southwest for approximately 2.5 miles to the LSWWTP.

1.2 PROGRAM DESCRIPTION

The proposed Program consists of individual wastewater utility improvement projects spanning a linear alignment from the SLRWRF to the terminus of the Oceanside Land Outfall (OLO) at the LSWWTP. The Program includes underground improvements and above ground construction of a new lift station. Specific utility improvements are currently under design. Proposed Program components are shown conceptually on Figure 3, *Aerial Photograph*, and further described below.

Sewer improvement projects that have been identified as part of this programmatic effort thus far include the following:

- Oceanside Mesa Garrison (OMG) Lift Station;
- Oceanside Mesa Garrison Force Main (OMG FM);
- Land Outfall Replacement;
- Mission Avenue Lift Station Force Main (MALS FM) Replacement; and
- Mission Avenue Gravity Sewer Lining and Replacement.

1.2.1 Oceanside Mesa Garrison Lift Station Project

The proposed OMG Lift Station Project involves the design and construction of a five-million-gallon-per-day (MGD) sewer lift station near the intersection of Mesa Drive and Garrison Street. The new OMG Lift Station would accommodate gravity flows from Mesa Drive and Garrison Street via a 24-inch gravity

sewer main. Flows from the OMG Lift Station would be conveyed north to the SLRWRF via the new OMG FM, which is described below in Section 1.2.2.

The City has identified the permanently closed Garrison Elementary School property as the optimal location for the proposed OMG Lift Station due to reduced pumping costs, proximity to the convergence of major sewer pipelines that would connect at the intersection of Mesa Drive and Garrison Street, and avoidance of permanent structures under San Diego Gas & Electric (SDG&E) high voltage power lines. The lift station would be developed within approximately 3 acres of the 11.2-acre property, which includes a 28-foot-wide access road proposed along the eastern property line for future utilities and maintenance access. The access road would also allow vehicle access to the project site from the south and possibly the north because Garrison Street is not a through street between Oceanside Boulevard and Mesa Drive. The remaining former school property would be sold to a prospective developer.

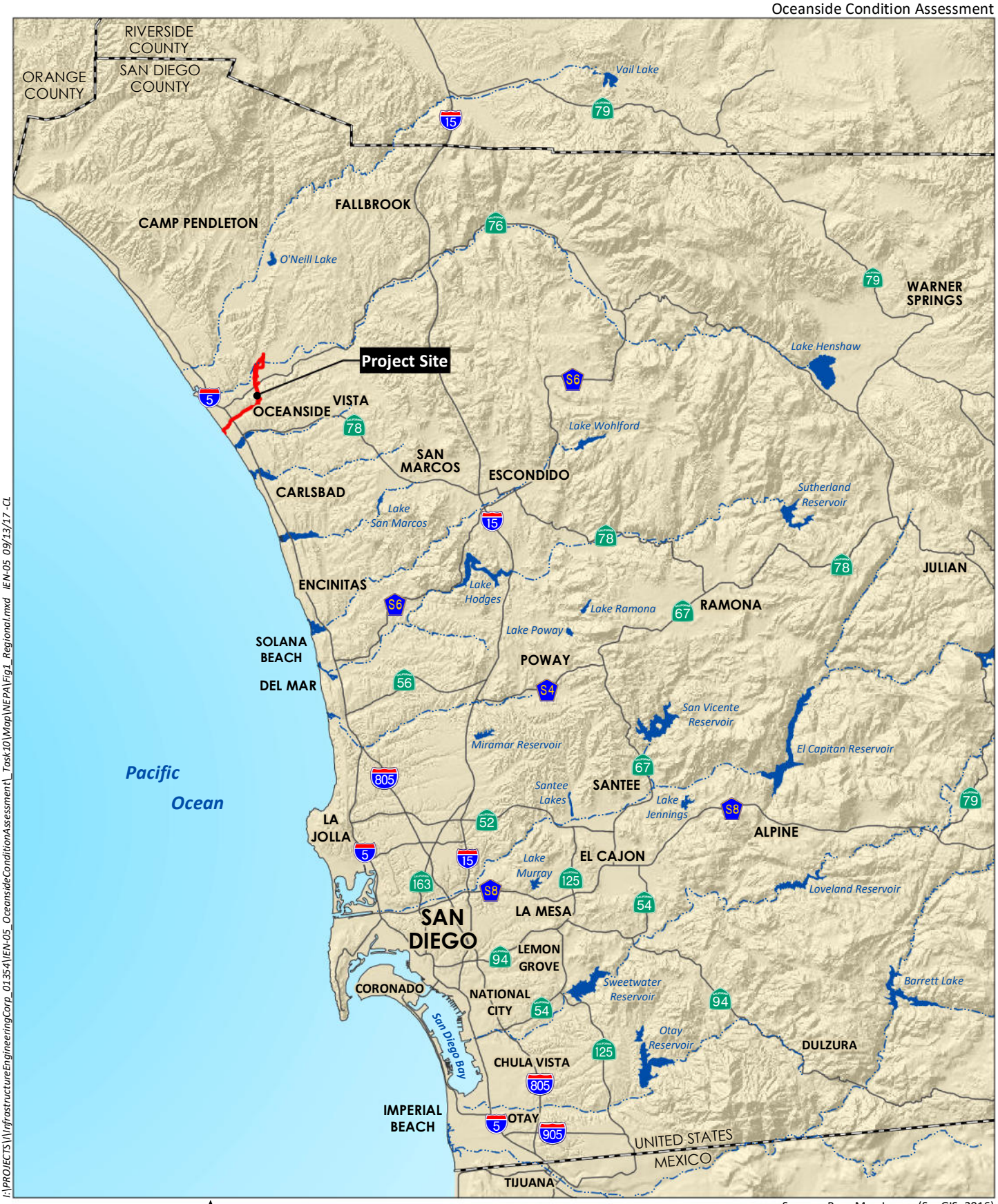
The proposed OMG Lift Station would include construction of the access road and lift station and associated components, including a wet well, emergency storage, future pipelines, parking, training (open area), chemicals storage, and equipment storage.

1.2.2 Oceanside Mesa Garrison Force Main Project

The OMG FM Project involves the design and construction of approximately 16,100 linear feet (LF) of 36-inch sewer force main that would carry wastewater flows from the proposed OMG Lift Station, as well as flows from the existing Buena Vista FM and future Buccaneer FM (being evaluated as a separate project), to the SLRWRF. The existing 36-inch/42-inch Buena Vista FM carries flows from the Buena Vista Lift Station (located near the Carlsbad Shopping Center at Jefferson Street and SR 78), and gravity flows from the Mesa-Garrison intersection, to SLRWRF. The future Buccaneer Lift Station would carry flows from the proposed Buccaneer LS (to be located at the LSWWTP) to a connection point with the OMG FM.

A substantial portion of the pipeline would occur within existing City's easements outside of paved roadways. The OMG FM would commence at the OMG Lift Station. North of the lift station, the FM would continue north along Garrison Street to the intersection with Mesa Drive. Here, it would connect to and collect flows from the existing Buena Vista FM and future Buccaneer FM. The OMG FM would continue northwest along Mesa Drive and then north through the SDG&E/Kinder Morgan transmission corridor, northeast across the San Luis Rey River, and along Whalen Lake Road to the SLRWRF.

The new 36-inch OMG FM would parallel the existing Buena Vista FM and would utilize the existing Buena Vista FM piping within an approximately 800-LF portion of tunnel ("Tunnel") near the SDG&E Substation that is west of El Camino Real and north of Mesa Drive. Piping within the Tunnel would not be replaced. The Buena Vista FM has few maintenance/access locations, which limits the City from cleaning and inspecting the pipe. Upon installation of the new OMG FM, the Buena Vista FM can be taken out of service, cleaned, inspected, and rehabilitated to safely serve as a redundant pipeline for the new OMG FM. To provide redundancy for the 36-inch pipe through the Tunnel section, an existing 22-inch high-density polyethylene (HDPE) pipe that currently carries Mesa-Garrison gravity flows through the Tunnel may be repurposed to handle the pressurized flow from the new OMG FM. Work would include connecting and installing valves on the 22-inch HDPE pipe and replacing approximately 1,000 LF of lined gravity pipe north of the Tunnel.



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Source: Base Map Layers (SanGIS, 2016)

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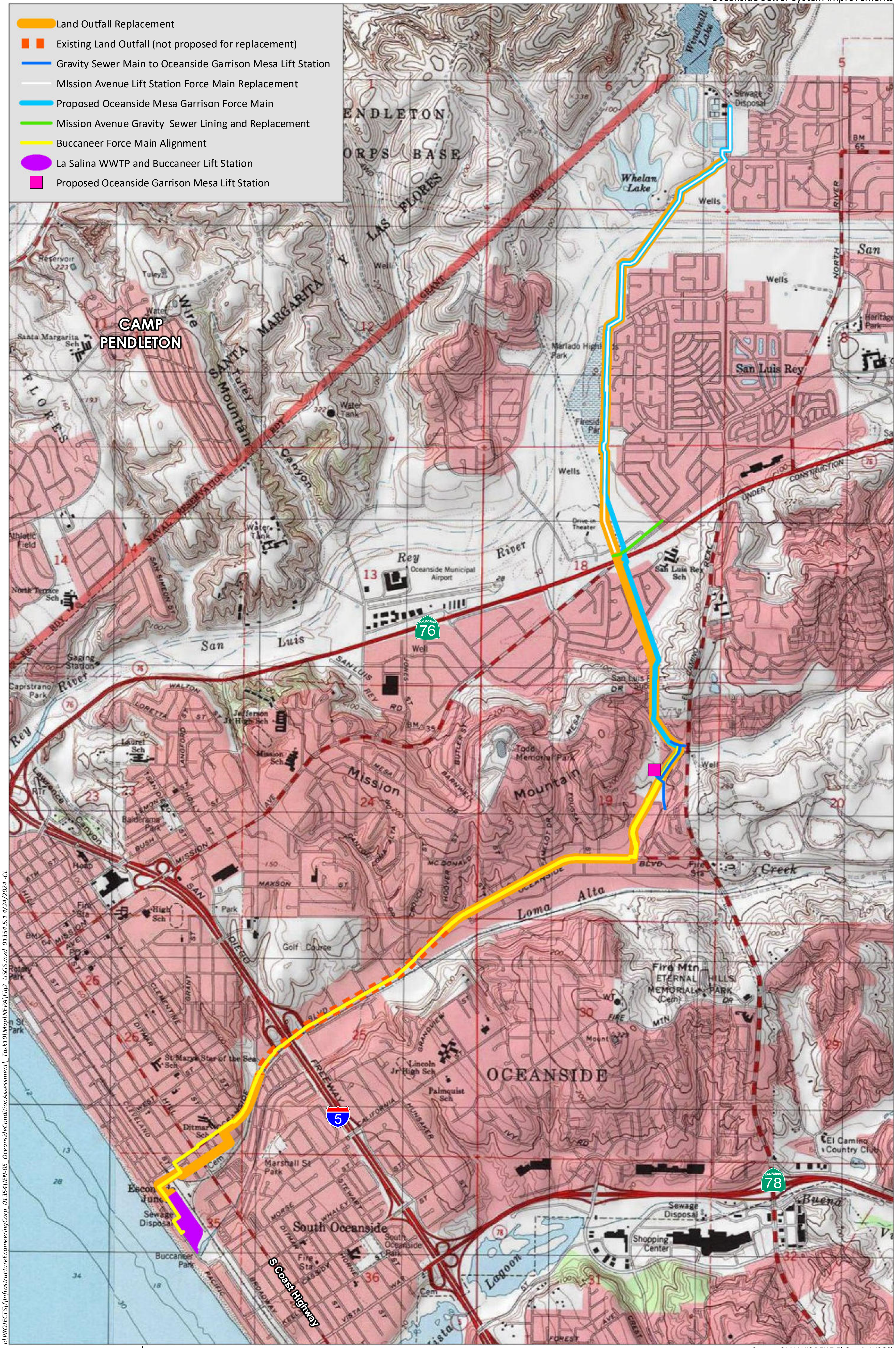
Regional Location

Figure 1



Source: SAN LUIS REY 7.5' Quads (USGS)

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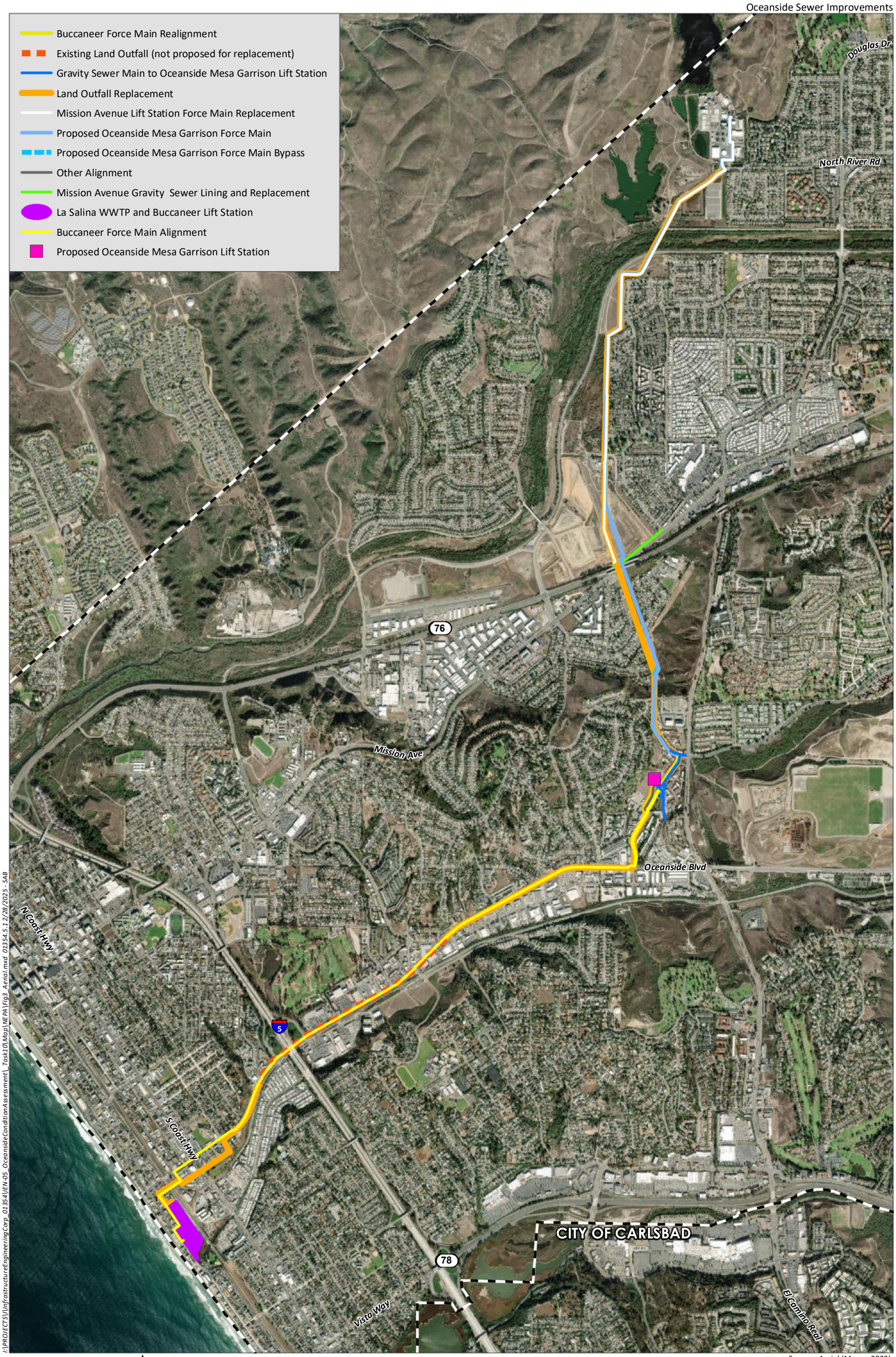
USGS Topography

Figure 2

Oceanside Sewer Improvements



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0 2,000 Feet

Source: Aerial (Maxar, 2023).

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Aerial Photograph

Figure 3

1.2.3 Land Outfall Replacement Project

The Land Outfall Replacement Project involves upsizing approximately 27,000 LF of the existing 24-inch OLO to 36-inch pipe between the SLRWRF and LSWWTP in various segments. The capacity increase would accommodate additional flows after the Fallbrook Public Utility District's connection to the OLO at Pala Road and future effluent flows diverted from LSWWTP. Approximately 19,000 LF of the OLO from SLRWRF to the proposed OMG Lift Station site generally follows the same corridor as the proposed OMG FM. This segment includes the 800 LF Tunnel section near the SDG&E Substation off El Camino Real north of Mesa Drive that would not be upsized. This upper reach is critical from an operational standpoint to accommodate future increased flows and provide spill control measures at SLRWRF. The upsized OLO would provide the reliability and capacity to divert effluent flows should the Pure Water (Advanced Water Treatment Facility) and Recycled Water production facilities be taken offline unexpectedly, as well as for maintenance purposes. This would also allow for future wastewater flow increases and potential coordination with nearby agencies that have expressed interest in sending more effluent through the OLO. Of the remaining 10,000 LF of pipe to be replaced, approximately 4,000 LF near the North County Transit District Railroad right-of-way was assessed in July 2021, and the condition was found to be extremely poor and requiring replacement. The other 6,000 LF in Oceanside Boulevard to Garrison Elementary School was not assessed, but upsizing would further alleviate capacity and operational issues.

OLO replacement components are as follows:

- Part A: Replacement of approximately 11,000 LF of 24-inch pipe with new 36-inch HDPE pipe between SLRWRF and Mission Basin Groundwater Purification Facility (MBGPF) in easements, including San Luis Rey River crossing. Would be constructed in similar corridor as OMG FM.

- Part B: Replacement of approximately 5,600 LF of existing 24-inch DIP pipe with new 36-inch HDPE pipe between MBGPF and the Tunnel north of Mesa Drive, within easements. This includes construction within the existing SDG&E corridor, private development, City facility, Caltrans right-of-way, and OMG FM corridor.

- Part C1: Replacement of approximately 1,350 LF of 24-inch pipe with new 36-inch HDPE pipe in Garrison Street from Garrison Elementary School to Oceanside Boulevard.

- Part C2: Replacement of approximately 4,500 LF of 24-inch pipe with new 36-inch HDPE pipe along Oceanside Boulevard between Garrison Street westward to the existing 36-inch HDPE OLO at Canyon Drive, where a segment of the existing 24-inch pipe was replaced in 2015 due to its poor condition.

- Part D: Replacement of approximately 4,000 LF of 24-inch pipe with new 36-inch HDPE pipe in Oceanside Boulevard from the westerly terminus of 36-inch HDPE pipe to the LSWWTP through residential streets, including the North County Transit District (NCTD) crossing.

1.2.4 Mission Avenue Lift Station Force Main Replacement Project

The MALS FM Replacement Project involves the replacement of approximately 13,000 LF of the existing 24-inch sewer force main from the existing Mission Avenue Lift Station to SLRWRF with a new parallel pipeline. The pipeline would commence at the existing lift station near Mission Avenue, where it would

run north through the proposed Ocean KAMP development, the SDG&E/Kinder Morgan transmission corridor, the Mission Basin Groundwater Purification Facility, and north in an easement adjacent to SLR Fireside Pond under U.S. Army Corps of Engineers jurisdiction. The pipeline would continue north in a public easement through unpaved areas, where it would be incorporated into the private streets of a proposed 52-unit Cypress Point residential development at Pala Road before crossing under the SLR River along with the other proposed pipelines. There, the pipeline would continue to run northeast through unpaved areas, potentially around SLRWRF's holding ponds and to the plant's headworks. Once the new parallel pipe is constructed, the existing 24-inch MALS FM may be taken offline, cleaned, assessed, and repaired to serve as a backup force main to improve the reliability of the City's sewer system.

1.2.5 Mission Avenue Gravity Sewer Lining and Replacement Project

The Mission Avenue Gravity Sewer includes cured-in-place (CIP) lining of approximately 600 LF of 24-inch gravity sewer pipe starting at 3560 Mission Avenue at the terminus of the Market Place Del Rio Sewer Replacement project west to Fireside Street. From the Fireside Street and Mission Avenue intersection, approximately 1,600 LF of the 24-inch pipe along Mission Avenue to the west would need to be upsized to a 30-inch and/or 36-inch pipe. The existing sewer is located in private easements through a commercial shopping center and undeveloped parcels owned by the Ocean KAMP development. The new replacement pipe would likely be relocated into Mission Avenue, where feasible. The Ocean KAMP development is conditioned to upsize a portion of the sewer in Mission Avenue in front of the development.

1.2.6 Construction Best Management Practices

The following construction Best Management Practices (BMPs) would be implemented by the Program:

- Construction activities would comply with San Diego Air Pollution Control District (SDAPCD) Rule 55, Fugitive Dust Control. Rule 55 requires the following:
    - No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period; and
    - Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be minimized by the use of effective trackout/ carryout and erosion control measures listed in Rule 55 that apply to the project or operation. These measures include track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; watering for dust control; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks.

2.0 REGULATORY SETTING

2.1 CRITERIA POLLUTANTS

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the general public. In general, air pollutants include the following compounds:

- Ozone (O_3)
- Reactive Organic Gases (ROGs) or Volatile Organic Compounds (VOCs)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NO_2)
- Respirable Particulate Matter and Fine Particulate Matter (PM_{10} and $PM_{2.5}$)
- Sulfur Dioxide (SO_2)
- Lead (Pb)

The following specific descriptions of health effects for each of the air pollutants potentially associated with project construction and operation are based on information provided by the California Air Resources Board (CARB; 2009).

Ozone. Ozone is considered a photochemical oxidant, which is a chemical that is formed when VOCs and nitrogen oxides (NO_X), both by-products of fuel combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

Reactive Organic Gases. ROGs (also known as VOCs) are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as ozone.

Carbon Monoxide. CO is a product of fuel combustion. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease and can also affect mental alertness and vision.

Nitrogen Dioxide. NO_2 is also a by-product of fuel combustion and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the risk of respiratory illness.

Respirable Particulate Matter and Fine Particulate Matter. Respirable particulate matter, or PM_{10}, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or $PM_{2.5}$, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges have been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust,

diesel exhaust, fuel combustion, tire and brake wear, construction operations, and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs. Diesel particulate matter (DPM) is classified as a carcinogen by CARB.

Sulfur dioxide. SO_2 is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Lead. Lead in the atmosphere occurs as particulate matter. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney, and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen.

Air quality is defined by ambient air concentrations of specific pollutants identified by the U.S. Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal CAA of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants, which are introduced above. Table 1, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards for these pollutants.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. CARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants through the California Clean Air Act of 1988 (CCAA), and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles.

Table 1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
O_3	1 Hour	0.09 ppm (180 µg/m³)	–	–
	8 Hour	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)	Same as Primary
PM_{10}	24 Hour	50 µg/m³	150 µg/m³	Same as Primary
	AAM	20 µg/m³	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m³	Same as Primary
	AAM	12 µg/m³	9.0 µg/m³	15.0 µg/m³
CO	1 Hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	–
	8 Hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)	–	–
NO_2	1 Hour	0.18 ppm (339 µg/m³)	0.100 ppm (188 µg/m³)	–
	AAM	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as Primary

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
SO_2	1 Hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m³)
	24 Hour	0.04 ppm (105 µg/m³)	–	–
Lead	30-day Avg.	1.5 µg/m³	–	–
	Calendar Quarter	–	1.5 µg/m³	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m³	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	**No Federal Standards**
Sulfates	24 Hour	25 µg/m³	**No Federal Standards**	**No Federal Standards**
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	**No Federal Standards**	**No Federal Standards**
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m³)	**No Federal Standards**	**No Federal Standards**

Source: CARB 2016; USEPA 2024

[1] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

[2] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Note: More detailed information of the data presented in this table can be found at the CARB website (www.arb.ca.gov).
O_3: ozone; ppm: parts per million; µg/m³: micrograms per cubic meter; PM_{10}: large particulate matter;
AAM: Annual Arithmetic Mean; $PM_{2.5}$: fine particulate matter; CO: carbon monoxide;
mg/m³: milligrams per cubic meter; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer; –: No Standard.

Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be "nonattainment areas" for that pollutant. On June 2, 2021, the San Diego Air Basin (SDAB) was classified as a severe nonattainment area for the 2015 8-hour NAAQS for ozone. The SDAB is an attainment area under the NAAQS for all other criteria pollutants. The SDAB currently falls under a national "maintenance plan" for CO, following a 1998 re-designation as a CO attainment area (SDAPCD 2010). The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (serious nonattainment), PM_{10}, and $PM_{2.5}$. The current federal and state attainment status for the County is presented in Table 2, *San Diego Air Basin Attainment Status*.

Table 2
SAN DIEGO AIR BASIN ATTAINMENT STATUS

Criteria Pollutant	Federal Designation	State Designation
O_3 (1-hour)	(No federal standard)	Nonattainment
O_3 (8-hour)	Severe Nonattainment	Nonattainment
CO	Attainment	Attainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Unclassified/Attainment	Nonattainment
NO_2	Unclassified/Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Unclassified/Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility	(No federal standard)	Unclassified

Source: CARB 2019a and USEPA 2021

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The current regional air quality plan for San Diego County is SDAPCD's 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (Attainment Plan; SDAPCD 2020). The Attainment Plan, which would be a revision to the state implementation plan (SIP), outlines SDAPCD's plans and control measures designed to attain the NAAQS for ozone. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the Attainment Plan and SIP.

The Attainment Plan relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of their respective general plans. Projects which are consistent with the growth assumptions used in the Attainment Plan and do not conflict with the control measures in the Attainment Plan, and which do not result in criteria pollutant and precursor emissions in excess of the thresholds adopted by the City (as described in Section 4.3, below), would not hinder the goal of the Attainment Plan to bring the SDAB into compliance with the NAAQS and CAAQS for the protection of public health.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin.

2.1.1 Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a category of air pollutants that have been shown to have an impact on human health but are not classified as criteria pollutants. Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. Air toxics are generated by a number of sources, including stationary ones such as dry cleaners, gas stations, combustion sources, and

laboratories; mobile ones such as automobiles; and area sources such as farms, landfills, construction sites, and residential areas. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. Public exposure to TACs is a significant environmental health issue in California.

2.2 GREENHOUSE GASES

Global climate change refers to changes in average climatic conditions on Earth including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The temperature record shows a decades-long trend of warming, with 2016 and 2020 tied for the warmest years on record since 1880 (National Aeronautics and Space Administration [NASA] 2021). GHG emissions from human activities are the most significant driver of observed climate change since the mid-20th century (Intergovernmental Panel on Climate Change [IPCC] 2013). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

2.2.1 Types of Greenhouse Gases

The GHGs defined under California's Assembly Bill (AB) 32 include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

CO_2 is the most important and common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (about 280 ppm in 1750). As of January 2025, the CO_2 concentration exceeded 426 ppm (National Oceanic and Atmospheric Administration [NOAA] 2025).

CH_4 is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-

related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). Chlorofluorocarbons were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the 1989 Montreal Protocol.

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHG emissions to disperse around the globe. Because GHG emissions vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, because methane and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). CO_2e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 3, *Global Warming Potentials and Atmospheric Lifetimes*. As indicated below, GWPs range from 1 to 22,800. Although the IPCC has released their *Fifth Assessment Report* (AR5) with updated GWPs, CARB reports the Statewide GHG inventory using the *Fourth Assessment Report* (AR4) GWPs, which is consistent with international reporting standards. By applying the AR4 GWP ratios, Project-related equivalent mass of CO_2, denoted as CO_2e emissions can be tabulated in metric tons per year.

Table 3
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-134a	14	1,430
PFC: Tetraflouromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: IPCC 2007
HFC: hydrofluorocarbon; PFC: perfluorocarbon

2.2.2 Greenhouse Gas Regulations

The following discussion focuses on the relevant regulations for GHG emissions that would pertain to water facilities.

2.2.2.1 Federal

Federal Clean Air Act

The U.S. Supreme Court ruled in April 2007, in *Massachusetts v. U.S. Environmental Protection Agency,* that CO_2 is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people. This action was a prerequisite to finalizing the USEPA's proposed GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the United States Department of Transportation's National Highway Traffic Safety Administration in September 2009.

Final Mandatory Reporting of GHG Rule

The USEPA is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The USEPA also has jurisdiction over emission sources outside state waters (outer continental shelf) and establishes various emissions standards for vehicles sold in states other than California. In September 2009, the USEPA issued the Final Mandatory Reporting of GHG Rule. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHG, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons (MT) or more per year of GHG emissions are required to submit annual reports to USEPA. The USEPA estimates that the rule covers about 10,000 facilities nationwide, accounting for about 85 percent of GHG emissions in the U.S.

2.2.2.2 State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, renewable energy and energy procurement, building energy, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders (EOs), legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

Executive Order S-3-05

On June 1, 2005, EO S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year

1990 levels by 2020, and to 80 percent below 1990 levels by 2050. EOs are not laws and can only provide the governor's direction to state agencies to act within their authority. Legislation is required to enact the goals of EO S-3-05 and establish a framework for statewide implementation. AB 32, described below, mandates the 2020 GHG emissions reduction goals of EO S-3-05. The 2050 GHG emissions reduction goal of EO S-3-05 has not been enacted by any legislation and remains only a goal of the EO.

Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 enacts the goals of EO S-3-05.

Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28-nation European Union. The emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050. Senate Bill (SB) 32, described below, mandates the 2030 GHG emission reduction goals of EO B-30-15.

Senate Bill 32

SB 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the state's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

Assembly Bill 1279

Approved by Governor Newsom on September 16, 2022, AB 1279, *The California Climate Crisis Act*, declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO_2 from the atmosphere (carbon capture), and almost complete transition away from fossil fuels.

Senate Bill 905

Approved by Governor Newsom on September 16, 2022, SB 905, *Carbon sequestration: Carbon Capture, Removal, Utilization, and Storage Program*, requires CARB to establish a Carbon Capture, Removal, Utilization, and Storage Program to evaluate the efficacy, safety, and viability of carbon capture,

utilization, or storage technologies and CO_2 removal technologies and facilitate the capture and sequestration of CO_2 from those technologies, where appropriate. SB 905 is an integral part of achieving the state policies mandated in AB 1279.

California Air Resources Board Scoping Plan

The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across our society and economy to reduce emissions and reach our climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual. The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG emissions targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived climate pollutants. The 2017 Scoping Plan also assessed the progress toward achieving the 2020 limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030.

On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in short-lived climate pollutants; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022a).

Renewable Energy and Energy Procurement

Senate Bill 1078

SB 1078 (Sher) (September 2002) established the Renewable Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1 percent of sales, with an aggregate goal of 20 percent by 2017. This goal was subsequently revised as described below.

Senate Bill 1368

SB 1368 (September 2006) required the California Energy Commission (CEC) to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission.

Assembly Bill 1109

Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting, to reduce electricity consumption by 50 percent for indoor residential lighting and 25 percent for indoor commercial lighting.

Executive Order S-14-08

EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33 percent of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The California Natural Resources Agency (CNRA), through collaboration with the CEC and California Department of Fish and Wildlife (formerly the California Department of Fish and Game), was directed to lead this effort.

Executive Order S-21-09 and Senate Bill X1-2

EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the California Public Utilities Commission and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1-2 expanded the RPS by establishing a renewable energy target of 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, and 33 percent by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals previously listed.

Senate Bill 350

SB 350 (October 2015, Clean Energy and Pollution Reduction Act) further expanded the RPS by establishing a goal of 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (e.g., heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the California Public Utilities Commission, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. Regarding mobile sources, as one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code Section 740.12).

Senate Bill 100

SB 100 (2018) increased the standards set forth in SB 350 establishing that 44 percent of the total electricity sold to retail customers in California per year by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of the retail sales of electricity to California. This bill requires that the achievement of 100 percent zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Senate Bill 1020

SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers come from eligible renewable energy resources and zero-carbon resources:

- 90 percent by December 31, 2035;
- 95 percent by December 31, 2040; and
- 100 percent by December 31, 2045.

Mobile Sources

Assembly Bill 1493 and Advanced Clean Cars

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepared California to merge its rules with the federal CAFE rules for passenger vehicles (CARB 2022b).

In January 2012, CARB approved Advanced Clean Cars I, a new emissions-control program for model years 2017 through 2025 including low emissions vehicle and zero-emissions vehicle criteria. The Advanced Clean Cars II regulations were adopted in 2022, imposing the next level of low-emission and zero-emission vehicle standards for model years 2026 through 2035 that contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality targets.

By 2035 all new passenger cars, trucks, and SUVs sold in California will be zero emissions. The Advanced Clean Cars II regulations take the state's already growing zero-emission vehicle market and robust motor vehicle emission control rules and augments them to meet more aggressive tailpipe emissions standards and ramp up to 100 percent zero-emission vehicles.

Executive Order S-01-07

This EO, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by

the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs the CARB to determine whether a LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit Court of Appeals reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB, therefore, is continuing to implement the LCFS statewide.

Senate Bill 375

SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPOs' Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline California Environmental Quality Act (CEQA) processing.

Executive Order N-79-20

EO N-79-20, signed by Governor Newsom on September 23, 2020, establishes three goals for implementation of zero emissions vehicles in California: first, 100 percent of in-state sales of new passenger cars and trucks will be zero-emissions by 2035; second, 100 percent of medium- and heavy-duty vehicles in the state will be zero-emissions vehicles by 2045 for all operations where feasible, and by 2035 for drayage trucks; and third, 100 percent of off-road vehicles and equipment will be zero emissions by 2035 where feasible.

Solid Waste

Assembly Bill 939

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board to oversee a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25 percent by 1995 and 50 percent by the year 2000.

Assembly Bill 341

The state legislature enacted AB 341 (California Public Resource Code Section 42649.2), amending the Integrated Waste Management Act to include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75 percent goal by 2020, legislative and regulatory recommendations, and an evaluation of program effectiveness (CalRecycle 2019).

Assembly Bill 1826

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

Senate Bill 1383

SB 1383 (Chapter 395, Statutes of 2016) establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. CalRecycle was granted the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025 (CalRecycle 2019).

Water

Executive Order B-29-15

In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25 percent relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Executive Order B-37-16

Issued May 2016, EO B-37-16 directed the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The SWRCB also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25 percent reduction called for in EO B-29-15. The SWRCB and Department of Water Resources were required to develop new, permanent water use targets that build upon the existing state law requirements that the state achieve 20 percent reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

Executive Order N-10-21

In response to a state of emergency due to severe drought conditions, EO N-10-21 (July 2021) called on all Californians to voluntarily reduce their water use by 15 percent from their 2020 levels. Actions suggested in EO N-10-21 include reducing landscape irrigation, running dishwashers and washing machines only when full, finding and fixing leaks, installing water-efficient showerheads, taking shorter showers, using a shut-off nozzle on hoses, and taking cars to commercial car washes that use recycled water.

Other State Actions

Senate Bill 97

SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (Governor's Office of Planning and Research 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4(a)). The Guidelines require a lead agency to consider the extent to which the Project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)). The Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance-based standards" (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

2.2.2.3 Regional

Under Section 53091(d) and (e) of the California Government Code, building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment or transmission of water or wastewater. Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water. Consequently, zoning ordinances only apply to wastewater projects. The following discussion of regional policies is provided for informational purposes and regional context.

Oceanside Climate Action Plan and Energy and Climate Action Element

The City has held public workshops on the City's General Plan Update, which includes development of a Climate Action Plan (CAP) and a policy framework to the Energy and Climate Action Element (E-CAP). The E-CAP proactively supports statewide efforts to cut GHG emissions by expanding local renewable energy generation, reducing energy use, promoting recycling and reuse, facilitating active transportation, and encouraging other sustainable practices. As part of this effort to ensure a sustainable future, the City prepared a GHG emissions inventory and a CAP, both of which inform the E-CAP. The City's Final CAP was adopted on May 8, 2019. The City is currently in process of developing the CAP Consistency Checklist; thus, the City has established screening and efficiency metric thresholds, which projects are to use to evaluate impacts from GHG emissions, in order to help the City to meet state reduction targets for 2020 and 2030. Consistent with the California Air Pollution Control Officers Association interim screening level, the City has established a bright line threshold of significance for GHG emissions impacts: 900 MT annually, with construction-related emissions amortized over 20 years. Projects that fall under this threshold are not required to conduct analysis of GHG emissions impacts, and thus would not benefit from the Checklist. Should a project exceed the bright line threshold, it is required to meet an efficiency metric threshold of 4.0 MT CO_2e per service population per year (MT CO_2e/SP/yr) for year 2020 and an efficiency metric threshold of 3.0 MT CO_2e/SP/yr for year 2030 (City of Oceanside 2019). Projects that meet these thresholds would be considered consistent with the City's CAP.

2.3 ENERGY

Energy consumption is a significant source of GHG emissions. Regulations to address energy also address GHGs, resulting in some overlap in the discussions in the following text and Section 2.2, *Greenhouse Gases*, above. In addition to the federal, state, and local regulations directed at reducing GHG emissions through increased efficiencies presented in Section 2.2 (i.e., EO S-3-05; EO B-30-15; EO S-01-07; AB 32; SB 100; SB 350; SB 1368; the CARB Scoping Plan), energy efficiency regulations that have the potential to influence the program are discussed below.

2.3.1 Federal Energy Regulations

2.3.1.1 Energy Independence and Security Act of 2007

House of Representatives Bill 6 (HR 6), the federal Energy Independence and Security Act of 2007, established new standards for a few equipment types not already subjected to a standard, and updated some existing standards. Perhaps the most substantial new standard that HR 6 established is for general service lighting that is being deployed in two phases. First, phased in between 2012 through 2014, common light bulbs were required to use about 20 to 30 percent less energy than previous incandescent

bulbs. Second, by 2020, light bulbs were required to consume 60 percent less energy than previous incandescent bulbs; this requirement will effectively phase out the incandescent light bulb.

2.3.1.2 Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

2.3.2 State

2.3.2.1 California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the fewest environmental and energy costs. To further this policy, the plan identifies a number of strategies, including providing assistance to public agencies and fleet operators.

2.3.2.2 CEQA Guidelines – Appendix F

CEQA Guidelines Appendix F, Energy Conservation, provides guidance for EIRs regarding potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing the inefficient, wasteful, and unnecessary consumption of energy. In addition, though not described as thresholds for determining the significance of impacts, Appendix F seeks inclusion of information in the EIR addressing the following topics:

- The project's energy requirements and its energy-use efficiencies by amount and fuel type for each stage of the project, including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak and base period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

2.3.3 Regional

2.3.3.1 SDG&E Long-Term Procurement Plan

As required by the CPUC, utility companies such as SDG&E must prepare a Long term Procurement Plan (LTPP) to ensure that adequate energy supplies are available to maintain a reserve margin of 15 percent above the estimated energy demand. These plans outline any future energy needs and how those needs can be met. In December 2006, SDG&E filed its LTPP with the CPUC, which included a 10-year energy resource plan that details its expected portfolio of energy resources over the planning horizon of 2007 through 2016. The projections included in the current LTPP were based on the CEC's CED 2008-2018 Forecast, dated November 2007. The 2020-2030 CEC CED projections reflect lower expected energy use than previously anticipated, due in part to advances in energy efficiency, evolving customer behavior, and increased distributed energy resources (e.g., rooftop solar, storage). SDG&E's procurement planning has evolved to align with newer CPUC mandates and Integrated Resource Planning proceedings, which incorporate decarbonization targets, reliability needs, and climate resilience.

3.0 EXISTING CONDITIONS

3.1 CLIMATE AND METEOROLOGY

The climate in southern California, including the SDAB, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. Areas within 30 miles of the coast experience moderate temperatures and comfortable humidity.

The predominant wind direction in the vicinity of the Program area is from the west and the average wind speed is approximately four miles per hour (Iowa Environmental Mesonet [IEM] 2021). The annual average maximum temperature in the Program area is approximately 68°F, and the annual average minimum temperature is approximately 53°F. Total precipitation in the Program area averages approximately 11 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2021).

Due to its climate, the SDAB experiences frequent temperature inversions (temperature increases as altitude increases, which is the opposite of general patterns). Temperature inversions prevent air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and NO_2 react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to CO and NO_2 emissions. High NO_2 levels usually occur during autumn or winter, on days with summer-like conditions.

3.2 CRITERIA POLLUTANTS

3.2.1 Attainment Designations

Attainment designations are discussed in Section 2.1 and Table 2. The SDAB is classified as a severe nonattainment area for the 8-hour NAAQS for ozone. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (serious nonattainment), PM_{10}, and $PM_{2.5}$. The SDAB is an attainment area for all other criteria pollutants.

3.2.2 Monitored Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring station to the Program area is the Camp Pendleton monitoring station. Air quality data for this monitoring station are shown in Table 4, *Air Quality Monitoring Data.*

The station measured acceptable levels of NO_2 and $PM_{2.5}$. The federal 8-hour ozone standard was violated once in 2023.

Table 4
AIR QUALITY MONITORING DATA

Pollutant	2021	2022	2023
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.074	0.076	0.090
Days above 1-hour state standard (>0.09 ppm)	0	0	0
Maximum 8-hour concentration (ppm)	0.059	0.067	0.077
Days above 8-hour state standard (>0.070 ppm)	0	0	1
Days above 8-hour federal standard (>0.070 ppm)	0	0	1
Respirable Particulate Matter ($PM_{2.5}$)			
Maximum 24-hour concentration (µg/m^3)	20.7	17.7	26.5
Days above state standard (>50 µg/m^3)	0	0	0
Days above federal standard (>150 µg/m^3)	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration (ppm)	0.059	0.050	0.053
Days above state 1-hour standard (0.18 ppm)	0	0	0

Source: CARB 2021
ppm = parts per million, µg/m^3 = micrograms per cubic meter

3.3 GREENHOUSE GASES

In an effort to evaluate and reduce the potential adverse impact of global climate change, international, state, and local organizations have conducted GHG inventories to estimate their levels of GHG emissions and removals. The following summarizes the results of these global, national, state, countywide, and local GHG inventories.

In 2020, total anthropogenic GHG emissions worldwide were estimated at 49,800 million metric tons (MMT) of CO_2e emissions (PBL 2022). The five largest emitting countries and the European Union

(EU-27), together account for about 60 percent of total global GHG emissions: China (27%), the United States (12%), the European Union (about 7%), India (7%), the Russian Federation (4.5%) and Japan (2.4%). These countries also have the highest CO_2 emission levels (PBL 2022).

Per the USEPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2020, total United States GHG emissions were approximately 5,981 MMT CO_2e in 2020 (USEPA 2022). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 76.4% of total GHG emissions (4,760 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.8% of CO_2 emissions in 2018 (5,031.8 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2020 are lower by 7.3%, down from a high of 15.2% above 1990 levels in 2007. GHG emissions decreased from 2019 to 2020 by 10.6% and overall, net emissions in 2020 were 21.4% below 2005 levels (USEPA 2022).

CARB performs statewide GHG inventories. The inventory is divided into six broad sectors; agriculture and forestry, commercial, electricity generation, industrial, residential, and transportation. Emissions are quantified in MMT CO_2e. Table 5, *California Greenhouse Gas Emissions by Sector*, shows the estimated statewide GHG emissions for the years 1990, 2000, 2010, and 2022.

Table 5
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR (MMT CO_2e)

Sector	1990	2000	2010	2022
Agriculture and Forestry	18.9 (4%)	31.0 (7%)	33.7 (8%)	29.8 (8%)
Commercial	14.4 (3%)	14.1 (3%)	20.1 (4%)	23.4 (6%)
Electricity Generation	110.5 (26%)	105.4 (22%)	90.6 (20%)	59.9 (16%)
Industrial	105.3 (24%)	105.8 (22%)	101.8 (23%)	83.8 (23%)
Residential	29.7 (7%)	31.7 (7%)	32.1 (7%)	30.7 (8%)
Transportation	150.6 (35%)	183.2 (39%)	170.2 (38%)	143.6 (39%)
Unspecified Remaining	1.3 (<1%)	0.0 (0%)	0.0 (0%)	0.0 (0%)
TOTAL	430.7	471.1	448.5	**371.1**

Source: CARB 2007; CARB 2019b; and CARB 2024

As shown in Table 5, statewide GHG emissions totaled 431 MMT CO_2e in 1990, 471 MMT CO_2e in 2000, 449 MMT CO_2e in 2010, and 371 MMT CO_2e in 2022. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

A San Diego regional emissions inventory that was prepared by the University of San Diego (USD) School of Law, Energy Policy Initiative Center (EPIC) accounted for the unique characteristics of the region. Its 2019 emissions inventory update for San Diego is presented in Table 6, *San Diego County GHG Emissions by Sector in 2019*. The sectors included in this inventory are somewhat different from those in the statewide inventory. Similar to the statewide emissions, transportation related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

Table 6
SAN DIEGO COUNTY GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	2019 Emissions MT CO_2e (% total)[1]
On-Road Transportation	1,331,000 (45%)
Electricity	599,000 (20%)
Solid Waste	193,000 (6%)
Natural Gas Consumption	478,000 (16%)
Agriculture	134,000 (4%)
Water	39,000 (1%)
Off-Road Transportation	71,000 (2%)
Wastewater	18,000 (1%)
Propane	121,000 (4%)
TOTAL	**2,984,000**

Source: USD EPIC 2023. Unincorporated County of San Diego 2019 Greenhouse Gas Emissions Inventory and Projections. Prepared by the University of San Diego School of Law, Energy Policy Initiative Center (EPIC).
[1] Percentages may not total 100 due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

3.4 ENERGY

The environmental setting for the proposed Program related to electricity, natural gas, and petroleum, including associated service providers, supply sources, and estimated consumption, is discussed below.

3.4.1 Electricity

According to the U.S. Energy Information Administration (EIA), California used approximately 250,379 gigawatt hours (GWh) of electricity in 2019 (EIA 2020a). Electricity usage in California for differing land uses varies substantially by the type of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building.

San Diego Gas & Electric (SDG&E) provides electric services to 3.6 million customers through 1.4 million electric meters located in a 4,100-square-mile service area that includes the San Diego County (County) and southern Orange County (SDG&E 2021a). SDG&E is a subsidiary of Sempra Energy and would provide electricity to the proposed Program. According to SDG&E, customers consumed approximately 14,899 million kilowatt-hours (kWh) of electricity in 2020 (SDG&E 2021b). SDG&E receives electric power from a variety of sources. According to CPUC's 2020 California Renewables Portfolio Standard Annual Report, 39% of SDG&E's power came from eligible renewable energy sources in 2019, including biomass/waste, geothermal, small hydroelectric, solar, and wind sources (CPUC 2020).

Based on recent energy supply and demand projections in California, statewide annual peak electricity demand is projected to grow an average of 3,600 megawatts per year for the next decade, or 1.3 percent annually (CEC 2020).

3.4.2 Natural Gas

According to the EIA, California used approximately 2,154,030 million cubic feet of natural gas in 2019 (EIA 2021). CPUC regulates natural gas utility service for approximately 10.8 million customers who receive natural gas from Pacific Gas & Electric (PG&E), Southern California Gas (SoCalGas), SDG&E, Southwest Gas, and several smaller natural gas utilities. CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage (CPUC 2021). SDG&E provides natural gas service to the Counties of San Diego and Orange and would provide natural gas to the proposed Program. SDG&E is a wholesale customer of SoCalGas and currently receives all of its natural gas from the SoCalGas system (CPUC 2021).

The majority of California's natural gas customers are residential and small commercial customers (core customers). These customers accounted for approximately 35% of the natural gas delivered by California utilities in 2018. Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 65% of the natural gas delivered by California utilities in 2018 (CPUC 2021).

CPUC regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. Biogas (e.g., from wastewater treatment facilities or dairy farms) is just beginning to be delivered into the gas utility pipeline systems, and the State has been encouraging its development (CPUC 2021).

In 2017, California customers received 38% of their natural gas supply from basins located in the Southwest, 27% from Canada, 27% from the Rocky Mountains, and 8% from basins located within California (CPUC 2021). Natural gas from out-of-state production basins is delivered into California through the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California are the Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Southern Trails, and Mojave Pipeline. The North Baja–Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border and delivers it through California into Mexico. The Federal Energy Regulatory Commission regulates the transportation of natural gas on interstate pipelines, and CPUC often participates in Federal Energy Regulatory Commission regulatory proceedings to represent the interests of California natural gas consumers (CPUC 2021).

Most of the natural gas transported through interstate pipelines, as well as some California-produced natural gas, is delivered through the PG&E and SoCalGas intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" natural gas pipeline system). Natural gas on the backbone pipeline system is then delivered into local transmission and distribution pipeline systems or to natural gas storage fields. Some large noncore customers take natural gas directly off the high-pressure backbone pipeline system, and some core customers and other noncore customers take natural gas off the utilities' distribution pipeline systems. CPUC has regulatory jurisdiction over 100,000 miles of transmission and distribution pipelines, and thousands more miles of service lines (CPUC 2021).

PG&E and SoCalGas own and operate several natural gas storage fields that are located in Northern and Southern California. These storage fields and four independently owned storage utilities—Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage—help meet peak-season

natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently (CPUC 2021).

California's regulated utilities do not own any natural gas production facilities. All natural gas sold by these utilities must be purchased from suppliers and/or marketers. The price of natural gas sold by suppliers and marketers was deregulated by the Federal Energy Regulatory Commission in the mid-1980s and is determined by market forces. However, CPUC decides whether California's utilities have taken reasonable steps to minimize the cost of natural gas purchased on behalf of its core customers (CPUC 2021).

As indicated in the preceding discussion, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas is becoming available through existing delivery systems, thereby increasing the availability and reliability of resources.

3.4.3 Petroleum

According to the EIA, California used a total of approximately 662 million barrels of petroleum in 2019, with the majority (565 million barrels) used for the transportation sector (EIA 2020b). This total annual consumption equates to a daily use of approximately 1.8 million barrels of petroleum. There are 42 U.S. gallons in a barrel, so California consumes approximately 76 million gallons of petroleum per day, adding up to an annual consumption of 26 billion gallons of petroleum. In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel.

Petroleum currently accounts for the majority of California's transportation energy consumption. However, technological advances, market trends, consumer behavior, and government policies could result in significant changes in fuel consumption by type and in total. At the federal and state levels, various policies, rules, and regulations have been enacted to improve vehicle fuel efficiency, promote the development and use of alternative fuels, reduce transportation-source air pollutants and greenhouse gas (GHG) emissions, and reduce vehicle miles traveled (VMT).

4.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

4.1 METHODOLOGY

Criteria pollutant and GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1 (CAPCOA 2022). CalEEMod is a computer model used to estimate criteria air pollutant resulting from construction and operation of land development projects throughout the state of California. CalEEMod was developed by CAPCOA with the input of several air quality management and pollution control districts. The model calculates emissions of CO, PM_{10}, $PM_{2.5}$, SO_2, the ozone precursors VOC and NO_X, and the GHG emissions for CO_2, CH_4, and N_2O. The input data and subsequent construction and operation emission estimates for the proposed Program are discussed below. CalEEMod output files are included in Appendix A, *CalEEMod Outputs*.

4.2 ASSUMPTIONS

4.2.1 Construction

Construction equipment would be used at multiple locations along the pipeline alignments. The use of excavators, loaders, forklifts, pavers, generators, rollers, air compressors, backhoes, dozers, dump trucks, compactors, bore/drill rigs, welders, pumps, and cranes would be used for Program construction. Construction of the Program components would occur both below and above ground. Excavation and trenching would be required along the pipeline alignments.

Rock excavation may be required along the pipeline alignments during construction. The ease, or difficulty, of excavating the rock would depend on if the rock encountered is fractured or not. Rock that is not fractured and has a high compressive strength is considered non-rippable and may require mechanical means to remove. It is anticipated that rock encountered which is non-rippable would be excavated utilizing mechanical means such as a rock breaker or a rock breaker in combination with a rotary cutting head.

Modeling for the construction emissions assumed that disturbed areas would be watered twice daily during grading activities to ensure that dust does not exceed the standards listed SDAPCD Rule 55, Fugitive Dust Control (i.e., visible dust emissions into the atmosphere shall not be emitted by the Program beyond the property line for a period or periods aggregating more than 3 minutes in any 60 minute period). Other construction assumptions used in modeling, including for earthwork and equipment requirements, were estimated based on requirements for similar facilities and are included in Appendix A.

Construction of the Program is estimated to begin in September 2025 and continue until August 2029. Sequencing of individual components may vary, depending on availability of funding and anticipated demand. For the purposes of analysis, an anticipated construction schedule, duration, and equipment list for each Program component is provided in Table 7, *Construction Schedule and Equipment*.

Table 7
CONSTRUCTION SCHEDULE AND EQUIPMENT

Program	Activity	Equipment	Estimated Construction Period	
Component			Start	End
Oceanside Mesa Garrison Lift Station	Grading	1 Tractor/Loader/Backhoe, 1 Dozer, 1 Excavator, 1 Grader	September 2025	November 2025
	Construction	2 Tractors/Loaders/Backhoes, 1 Excavator, 1 Crane, 1 Skid-Steer Loader, 1 Plate Compactor, 1 Generator, 1 Roller, 1 Paver	November 2025	June 2027
	Dewater	1 Generator, 1 Bore/Drill Rig, 1 Tractor/Loader/Backhoe	November 2025	March 2026
	Pavement Removal/ Excavation	1 Concrete Saw, 3 Excavators, 1 Tractor/Loader/Backhoe	November 2025	January 2026

Program Component	Activity	Equipment	Estimated Construction Period	
			Start	End
Oceanside Mesa Garrison Force Main	Pipeline Installation/ Fuse Pipe/ Backfill	1 Excavator, 2 Tractors/Loaders/Backhoes	January 2026	January 2027
	Jacking and Receiving Pit/ Horizontal Directional Drill	1 Bore/Drill Rig, 1 Crane, 1 Generator, 1 Excavator, 1 Tractor/Loader/ Backhoe	January 2026	July 2026
	Connection to Lift Stations	1 Generator, 1 Crane, 1 Excavator, 1 Tractor/Loader/Backhoe, 1 Plate Compactor	January 2027	March 2027
	Pressure Test/Valve Installation	1 Pump, 1 Tractor/Loader/Backhoe, 1 Generator, 1 Crane	March 2027	March 2027
	Paving	1 Paver, 1 Skid-Steer Loader, 1 Sweeper, 2 Rollers	April 2027	June 2027
Land Outfall Replacement Parts A and B (SLRWRF to former Garrison Elementary School Entrance)	Dewatering	1 Bore/Drill Rig, 1 Generator, 1 Excavator, 1 Tractor/Loader/Backhoe	November 2025	March 2026
	Pavement Removal/ Excavation	1 Concrete Saw, 3 Excavators, 2 Tractors/Loaders/Backhoes, 1 Pavement Grinder, 1 Sweeper	November 2025	January 2026
	Pipeline Installation/ Fuse Pipe/ Backfill	2 Excavators, 2 Tractors/Loaders/Backhoes	January 2026	January 2027
	Jacking and Receiving Pit/ Horizontal Directional Drill	1 Bore/Drill Rig, 1 Crane, 1 Excavator, 1 Forklift, 1 Tractor/Loader/Backhoe	January 2026	July 2026
	Pressure Test Pipeline and Valve Installation	1 Pump, 1 Tractor/Loader/Backhoe, 1 Generator, 1 Crane	March 2027	March 2027
	Paving	1 Paving Equipment, 2 Skid-Steer Loaders, 5 Rollers, 2 Street Sweepers	April 2027	June 2027
	Dewatering	1 Bore/Drill Rig, 1 Generator, 1 Excavator, 1 Tractor/Loader/Backhoe	June 2027	June 2028
	Pavement Removal/ Excavation	1 Concrete Saw, 3 Excavators, 2 Tractors/Loaders/Backhoes, 1 Pavement Grinder, 1 Sweeper	June 2027	June 2028
	Pipe Installation/ Fuse Pipe/ Backfill	2 Excavators, 2 Tractors/Loaders/Backhoes	June 2027	June 2028

Program Component	Activity	Equipment	Estimated Construction Period	
			Start	End
Land Outfall Replacement Part C1 (in Garrison Street from former Garrison Elementary School to Oceanside Boulevard)	Trenchless Pipe Installation (Horizontal Directional Drill and/or Jack and Bore)	1 Bore/Drill Rig, 1 Crane, 1 Excavator, 1 Forklift, 1 Tractor/Loader/Backhoe	February 2028	April 2028
	Pressure Test Pipeline and Valve Installation	1 Pump, 1 Tractor/Loader/Backhoe, 1 Generator, 1 Crane	April 2028	May 2028
	Paving	1 Paving Equipment, 2 Skid-Steer Loaders, 5 Rollers, 2 Street Sweepers	May 2028	June 2028
Land Outfall Replacement Part C2 (along Oceanside Boulevard between Garrison Street and Canyon Drive)	Dewatering	1 Bore/Drill Rig, 1 Generator, 1 Excavator, 1 Tractor/Loader/Backhoe	February 2028	April 2028
	Pavement Removal/ Excavation	1 Concrete Saw, 3 Excavators, 2 Tractors/Loaders/Backhoes, 1 Pavement Grinder, 1 Sweeper	March 2028	October 2028
	Pipe Installation/ Fuse/ Backfill	2 Excavators, 2 Tractors/Loaders/Backhoes	April 2028	July 2029
	Trenchless Pipe Installation (Horizontal Directional Drill and/or Jack and Bore)	1 Bore/Drill Rig, 1 Crane, 1 Excavator, 1 Forklift, 1 Tractor/Loader/Backhoe	October 2028	February 2029
	Pressure Test Pipeline and Valve Installation	1 Pump, 1 Tractor/Loader/Backhoe, 1 Generator, 1 Crane	June 2029	July 2029
	Paving	1 Paving Equipment, 2 Skid-Steer Loaders, 5 Rollers, 2 Street Sweepers	July 2029	August 2029
	Dewatering	1 Bore/Drill Rig, 1 Generator, 1 Excavator, 1 Tractor/Loader/Backhoe	August 2026	October 2026
	Pavement Removal/ Excavation	1 Concrete Saw, 3 Excavators, 2 Tractors/Loaders/Backhoes, 1 Pavement Grinder, 1 Sweeper	September 2026	November 2026
	Pipe Installation/ Fuse/Backfill	2 Excavators, 2 Tractors/Loaders/Backhoes	October 2026	November 2027

Program Component	Activity	Equipment	Estimated Construction Period	
			Start	End
Land Outfall Replacement Part D (along Oceanside Boulevard between Canyon Drive and LSWWTP)	Trenchless Pipe Installation (Horizontal Directional Drill and/or Jack and Bore)	1 Bore/Drill Rig, 1 Crane, 1 Excavator, 1 Forklift, 1 Tractor/Loader/Backhoe	April 2027	October 2027
	Pressure Test Pipeline and Valve Installation	1 Pump, 1 Tractor/Loader/Backhoe, 1 Generator, 1 Crane	December 2027	January 2028
	Paving	1 Paving Equipment, 2 Skid-Steer Loaders, 5 Rollers, 2 Street Sweepers	January 2028	February 2028
Mission Avenue Lift Station Force Main Replacement	Dewatering	1 Generator, 1 Bore/Drill Rig, 1 Tractor/Loader/Backhoe	November 2025	March 2026
	Pavement Removal/ Pipeline Excavation	1 Concrete Saw, 1 Excavator, 1 Tractor/Loader/Backhoe, 1 Street Sweeper, 1 Pavement Grinder	November 2025	January 2026
	Pipe Installation/ Fuse/ Backfill	2 Excavators, 1 Tractor/Loader/Backhoe	January 2026	January 2027
	Horizontal Directional Drill	1 Bore/Drill Rig, 1 Crane, 1 Generator, 1 Excavator, 1 Tractor/Loader/Backhoe	January 2026	July 2026
	Pressure Test	1 Pump, 1 Tractor/Loader/Backhoe, 1 Generator	March 2027	March 2027
	Paving	1 Paver, 1 Skid-Steer Loader, 2 Rollers, 1 Street Sweeper	April 2027	
Mission Ave Gravity Sewer Lining and Replacement	Dewatering	1 Generator, 1 Bore/Drill Rig, 1 Tractor/Loader/Backhoe	November 2027	January, 2028
	Pavement Removal/ Pipeline Excavation	1 Concrete Saw, 1 Excavator, 1 Tractor/Loader/Backhoe, 1 Street Sweeper, 1 Pavement Grinder	November, 2027	January, 2028
	Pipe Installation/Backfill	1 Excavator, 1 Tractor/Loader/Backhoe, 1 Street Sweeper	January, 2028	April, 2028
	Cured-in-place Lining	1 Generator, 1 Excavator, 1 Welder, 1 Tractor/Loader/Backhoe	January 2028	April 2028
	Connections	1 Generator, 1 Crane, 1 Excavator, 1 Tractor/Loader/Backhoe, 1 Plate Compactor	May 2028	July 2028

Program Component	Activity	Equipment	Estimated Construction Period	
			Start	End
	Pipe Testing	1 Pump, 1 Tractor/Loader/Backhoe, 1 Generator	July 2028	August 2028
	Paving	1 Paver, 1 Skid-Steer Loader, 2 Rollers, 1 Street Sweeper	August 2028	September 2028

Further details regarding construction durations provided in Appendix A

4.2.2 Operation

Once the Program is complete, there would be no long-term changes to the staffing needs of the new facilities. The addition of the OMG Lift Station, however, would add new a stationary source in the form of an emergency generator and result in the consumption of electricity from the operation of the pumps. The electricity use associated with the OMG Lift Station was estimated to be approximately 800 MWh per year. A 450 kW diesel-powered emergency generator would be used at the OMG Lift Station. Generator emissions were estimated using CalEEMod based on the testing frequency and duration, assumed to be up to 30 minutes per day, once per month, and the power output of the engines.

4.3 SIGNIFICANCE CRITERIA

4.3.1 Air Quality

According to Appendix G of the State CEQA Guidelines, a project would have a significant air quality environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan;

2. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.

3. Expose sensitive receptors (i.e., day care centers, schools, retirement homes, and hospitals or medical patients in residential homes which could be impacted by air pollutants) to substantial pollutant concentrations; or

4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIAs).

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality. The screening thresholds are included in Table 8, *Screening-level Thresholds for Air Quality Impact Analysis*.

The State of California Health and Safety Code Sections 41700 and 41705, and SDAPCD Rule 51, commonly referred to as public nuisance law, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The provisions of these regulations do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals. It is generally accepted that the considerable number of persons requirement in Rule 51 is normally satisfied when 10 different individuals/households have made separate complaints within 90 days. Therefore, odor complaints from a "considerable" number of persons or businesses in the area is considered to be a significant, adverse odor impact.

Table 8
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSES

Pollutant	Total Emissions		
Construction Emissions (Pounds per Day)			
Respirable Particulate Matter (PM_{10})	100		
Fine Particulate Matter ($PM_{2.5}$)	67		
Oxides of Nitrogen (NO_X)	250		
Oxides of Sulfur (SO_X)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	137		
Operational Emissions			
	Pounds per Hour	**Pounds per Day**	**Tons per Year**
Respirable Particulate Matter (PM_{10})	---	100	15
Fine Particulate Matter ($PM_{2.5}$)	---	67	10
Oxides of Nitrogen (NO_X)	25	250	40
Oxides of Sulfur (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)	---	137	15
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

Source: SDACPD Rule 20.2 and Rule 1210.
T-BACT = Toxics-Best Available Control Technology

4.3.2 Greenhouse Gases

Given the relatively small levels of emissions generated by a typical project in relationship to the total amount of GHG emissions generated on a national or global basis, individual projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from individual projects could result in significant, cumulative impacts with respect to climate change. Thus, the potential for a significant GHG impact is limited to cumulative impacts.

According to Appendix G of the State CEQA Guidelines, a project would have a significant environmental impact if it would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The determination of significance is governed by CEQA Guidelines 15064.4, entitled “Determining the Significance of Impacts from Greenhouse Gas Emissions.” CEQA Guidelines 15064.4(a) states, “[t]he determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort,

based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to … [use a quantitative model or qualitative model]" (emphasis added). In turn, CEQA Guidelines 15064.4(b) clarifies that a lead agency should consider "Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project."

The City is currently in process of developing the CAP Consistency Checklist; thus, the City has established screening and efficiency metric thresholds, which projects are to use to evaluate impacts from GHG emissions, in order to help the City to meet state reduction targets for 2020 and 2030. Consistent with California's Climate Change Scoping Plan, the City has established a bright line threshold of significance for GHG emissions impacts: 900 MT annually, with construction-related emissions amortized over 20 years. Projects that fall under this threshold are not required to conduct analysis of GHG emissions impacts, and thus would not benefit from the Checklist. Should a project exceed the bright line threshold, it is required to meet an efficiency metric threshold of 4.0 MT CO_2e per service population per year (MT CO_2e/SP/yr) for year 2020 and an efficiency metric threshold of 3.0 MT CO_2e/SP/yr for year 2030 (City of Oceanside 2019). Projects that meet these thresholds would be considered consistent with the City's CAP.

4.3.3 Energy

According to Appendix G of the State CEQA Guidelines, a project would have a significant environmental impact if it would:

1. Result in the wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

5.0 CRITERIA AIR POLLUTANT IMPACTS

This section evaluates potential impacts of the proposed Program related to consistency with air quality plans, a cumulatively considerable net increase of nonattainment criteria pollutants, sensitive receptors, and odors.

5.1 CONSISTENCY WITH AIR QUALITY PLANS

The SDAPCD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SDAB is in nonattainment. Strategies to achieve these emissions reductions are developed in the Attainment Plan and SIP, prepared by the SDAPCD for the region. Both the Attainment Plan and SIP are based on SANDAG population projections, as well as land use designations and population projections included in general plans for those communities located within the County. Population growth is typically associated with the construction of residential units or large employment centers.

A project would be inconsistent with the Attainment Plan and SIP if it results in population and/or employment growth that exceed growth estimates for the area. The purpose of the Program is to make necessary improvements to the existing sewer infrastructure, as well as additional infrastructure necessary to accommodate planned growth in the area. Achieving these goals would manage the water

system in accordance with expected population growth and would not result in population growth beyond estimates for the area. In addition, construction and maintenance jobs for construction and operation of the Program would likely recruit from the local pool of labor and would not create conditions for employment growth that exceeds growth estimates for the area.

Because the Program would not generate population and employment growth beyond the levels assumed for the region, the Program would not conflict with population projections for the region and would, therefore, be consistent with the Attainment Plan and SIP. In addition, the Program would comply with existing and new rules and regulations as they are implemented by the SDAPCD, CARB, and/or USEPA related to emissions generated during construction. Therefore, the Program would not conflict with the applicable air quality attainment plan, and no impacts to regional air quality would occur.

5.2 CUMULATIVELY CONSIDERABLE NET INCREASE OF NONATTAINMENT CRITERIA POLLUTANTS

The Program would generate criteria pollutants during construction and operation. To determine whether a project would result in a cumulatively considerable net increase in criteria pollutant emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds established by the SDAPCD (as shown in Table 8). The Program's emissions were estimated using CalEEMod as described in Section 4.1. Program-specific input was based on general information provided in Section 1.0 and default model settings to estimate reasonably conservative conditions. Additional details of phasing, selection of construction equipment, and other input parameters, including CalEEMod data, are included in Appendix A.

5.2.1 Program Emissions

5.2.1.1 Construction Emissions

Construction of the Program would result in temporary increases in air pollutant emissions. These emissions would be generated in the form of fugitive dust emissions (PM_{10} and $PM_{2.5}$) and ozone precursor emissions (NO_X, VOC). Operation of heavy equipment and vehicles during the construction phases would generate exhaust emissions from fuel combustion. Fugitive dust emissions would be generated from earth disturbance during site grading, as well as from construction vehicles operating on open fields or dirt roadways within or adjacent to construction sites. The results of the calculations for Program construction are shown in Table 9, *Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the thresholds identified previously in Table 8. The tables do not present emissions from blasting, as the specifics of blasting are unknown at the current level of design.

Table 9
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Year	Pollutant Emissions (pounds/day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2025	55	33	115	<0.5	5	3
2026	54	39	120	<0.5	3	2
2027	53	27	103	<0.5	2	1
2028	54	31	118	<0.5	3	2
2029	1	7	11	<0.5	<0.5	<0.5
Maximum Daily Emissions	**55**	**39**	**120**	**<0.5**	**5**	**3**
Significance Thresholds	*137*	*250*	*550*	*250*	*100*	*67*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix A)

As shown in Table 9, emissions from regular construction activities would not exceed the SDAPCD daily thresholds. Construction period emissions generated by the Program would therefore result in a less than significant impact.

5.2.1.2 Operational Emissions

A 450 kW diesel-powered emergency generator would be used at the OMG Lift Station. Generator emissions were estimated using CalEEMod based on the testing frequency and duration, assumed to be up to 30 minutes per day, once per month, and the power output of the engine. Operational emission calculations, and model outputs are provided in Appendix A.

Table 10, *Maximum Daily Operational Emissions*, presents the summary of operational emissions for the Program.

Table 10
MAXIMUM DAILY OPERATIONAL EMISSIONS

Category	Pollutant Emissions (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Stationary	1	2	1	<0.5	<0.5	<0.5
Total Daily Emissions	**1**	**2**	**1**	**<0.5**	**<0.5**	**<0.5**
Significance Thresholds	*137*	*250*	*550*	*250*	*100*	*67*
Significant Impact?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix A)

As shown in Table 10, Program emissions of all criteria pollutants during operation would be below the daily thresholds. Operational emissions of the Program would therefore result in a less than significant impact.

5.3 IMPACTS TO SENSITIVE RECEPTORS

Impacts to sensitive receptors are typically analyzed for CO hotspots and exposure to TACs. An analysis of the Program's potential to expose sensitive receptors to these pollutants is provided below.

5.3.1 Carbon Monoxide Hot Spots

A CO hot spot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. Construction of the proposed force main would occur on City streets. The Program would be required to submit a Traffic Control Plan, which would describe specifications for construction within public roadways, including requirements for signage, barricades, traffic control, driveway impairments, flag persons, overnight storage of materials, public noticing of street/lane closures, the use of night lighting and flares, temporary signal timing devices for work within signalized intersections, and ultimate removal and clean-up of construction activities. The Traffic Control Plan would be approved and monitored by the City Traffic Department. Long-term operation of the Program is not anticipated to affect existing traffic patterns or volumes. Therefore, the Program would not expose sensitive receptors to substantial localized concentrations of CO and the impact would be less than significant. The impact would be less than significant.

5.3.2 Exposure to TACs

5.3.2.1 Construction

Construction activities would result in short-term, Program-generated emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment. CARB identified diesel PM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, Health Risk Assessments (HRAs), which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Program.

The construction period would be relatively short when compared to a 30-year exposure period. In addition, the construction would occur at various locations over a large area, and a large amount of equipment would not occur near a single sensitive receptor for an extended period of time. Combined with the highly dispersive properties of diesel PM and additional reductions in exhaust emissions from improved equipment, construction-related emissions would not expose sensitive receptors to substantial emissions of diesel PM.

5.3.2.2 Operation

With regard to long-term operations, the backup emergency generator would represent a new source of TACs. The backup generator would only be used for testing or emergency situations. It is anticipated to be tested for 30 minutes per month, equating to 12 hours of operation per year. At this length of operation, the generators would emit negligible TACs. Proposed pumps would be electrically powered and would not generate on-site emissions of TACs. Therefore, no significant health risk would occur from Program-related TAC emissions, and no mitigation is necessary.

5.4 ODORS

Implementation of the proposed project would have the potential to generate objectionable odors through construction activities and during operation of certain of the proposed projects, as discussed below.

5.4.1 Construction

CARB's Air Quality and Land Use Handbook includes a list of the most common sources of odor complaints received by local air districts. Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. Construction activities are not a typical source of nuisance odors, although construction could result in minor amounts of odorous compounds associated with diesel heavy equipment exhaust or evaporation of volatile compounds within paint or other coatings. The smell of diesel exhaust is due in most part to the presence of sulfur and the creation of hydrocarbons during combustion (Nett Technologies 2018). As shown in Table 9, construction emissions would not result in significant emissions of sulfur oxides. Additionally, construction equipment associated with the project would be operating at various locations throughout the service areas and would not take place all at once. Odorous hydrocarbons emissions would dissipate beyond the emissions sources and would only affect receptors in the immediate vicinity of the construction site. Construction-related operations would also be temporary in nature and would cease at the completion of construction. Therefore, construction activities would not result in nuisance odors. Odor impacts associated with construction would be less than significant.

5.4.2 Operation

The existing MALS currently implements activated carbon scrubbing for odor control. Odor control measures would continue to be implemented at the MALS and included in the new OMG Lift Station.

Odor control measures for the OMG FM and MALS FM would be implemented to remove odors that may be discharged from air valves installed along the alignments. Air valve odor control treatment would consist of activated carbon canisters installed at the location of each combination air release and air-vacuum valve. The carbon canisters would be placed on the discharge side of the air release or air-vacuum valve. Replacement of the spent carbon canisters would depend on the extent of air leaving the pipeline, with anticipated replacement of the spent carbon canisters every 6 to 12 months.

Additionally, SDAPCD Rule 51 prohibits nuisances, including objectionable odors. The SDAPCD responds to odor complaints by investigating the complaint and determining whether the odor violates SDAPCD Rule 51. The inspector takes enforcement action if the source is not in compliance with the SDAPCD rules and regulations (SDAPCD 2016). In the event of enforcement action, odor-causing impacts must be reduced by appropriate means to minimize or avoid the impacts to sensitive. Such means may include shutdown of odor sources or requirements to control odors using add-on equipment.

Given the aforementioned Program design features and conformance with SDAPCD Rule 51, the proposed Program would not result in significant objectionable odors and impacts would be less than significant.

6.0 GREENHOUSE GAS IMPACTS

Emissions of GHGs are presented in MT CO_2e, which is a metric used to compare the emissions from various GHGs based on their global warming potential. The CO_2e of a gas is determined by multiplying the tons of that gas by its global warming potential.

6.1 GREENHOUSE GAS EMISSIONS

6.1.1 Construction

Program construction would generate GHG emissions associated with construction equipment exhaust and from construction worker vehicle trips to and from the Program area. The primary GHG emissions would be CO_2 from gasoline and diesel combustion, with more limited vehicle tailpipe emissions of nitrous oxide (N_2O) and methane (CH_4). Total GHG emissions during Program construction are presented in Table 11, *Estimated Construction GHG Emissions*. As shown in Table 11, the Program would result in GHG emissions from construction of 1,959 MT CO_2e. Amortized over 20 years, the proposed construction activities would contribute approximately 98 MT CO_2e emissions per year.

Table 11
ESTIMATED CONSTRUCTION GHG EMISSIONS

Year	Emissions (MT CO_2e)
2025	176
2026	788
2027	506
2028	454
2029	36
TOTAL[1]	**1,959**
Amortized Construction Emissions[2]	98

Source: CalEEMod (output data is provided in Appendix A)
[1] The total presented is the sum of the unrounded values.
[2] Construction emissions are amortized over 30 years.

6.1.2 Operation

Operational sources of emissions from the Program include energy use (electricity) and stationary sources (emergency generator).

6.1.2.1 Energy Use

Projects that increase electricity consumption also result in an indirect increase in GHG emissions. The generation of electricity through the combustion of fossil fuels typically yields CO_2, and to a much smaller extent, CH_4, and N_2O. The new OMG Lift Station would consume approximately 800 MWh of electricity per year resulting in emissions of 62 MT CO_2e.

6.1.2.2 Stationary Sources (Emergency Generators)

A 450 kW diesel-powered emergency generator would be used at the OMG Lift Station. Generator emissions were estimated using CalEEMod based on the testing frequency and duration, assumed to be up to 30 minutes per day, once per month, and the power output of the engine. The Program would result in emissions of 2 MT CO_2e from stationary sources.

6.1.2.3 Emissions

Table 12, *Total Estimated Operational GHG Emissions*, includes the total annual emissions for the Program. The emissions include the amortized annual construction emissions anticipated for the Program. Appendix A contains the CalEEMod output files for the Program. Implementation of the Program would result in annual GHG emissions of 162 MT CO_2e. This can be compared to and is less than the City's bright line screening level of 900 MT CO_2e per year. Therefore, the increase in GHG emissions would not be cumulatively considerable, and the impact would be less than significant.

Table 12
TOTAL ESTIMATED OPERATIONAL GHG EMISSIONS

Emission Sources	Emissions (MT CO_2e)
Energy Sources	62
Stationary Sources	2
Operational Subtotal	64
Construction (amortized over 20 years)	98
TOTAL OPERATIONAL EMISSIONS	**162**

Source: CalEEMod output data is provided in Appendix A
Note: Totals may not add up exactly due to rounding.

6.2 CONSISTENCY WITH LOCAL PLANS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS

There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 1279, *The California Climate Crisis Act,* with the quantitative goal to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the LCFS, and regulations requiring an increasing proportion of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed Program does not conflict with those plans and regulations.

The City developed a CAP to reduce GHG emissions within the City and thereby reduce the City's contribution to global climate change concerns. The City CAP includes GHG reduction strategies in the sectors of energy and buildings, water and wastewater, solid waste, transportation and land use, and agriculture and forestry to reach the City's GHG reduction targets (City of Oceanside 2019). The purpose of the Program is to make necessary improvements to the existing sewer infrastructure, as well as additional infrastructure necessary to accommodate planned growth in the area. As previously discussed, the increase in GHG emissions would be less than the City's bright line screening level threshold being applied to this analysis. Since the proposed Program would not result in a substantial

increase in GHG emissions, the proposed Program would be consistent with the GHG reduction goals of the City's CAP

Given the aforementioned, implementation of the proposed Program would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This would represent a less than significant impact.

7.0 ENERGY

7.1 RESULT IN WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES

7.1.1 Construction Energy Use

Construction activities would require the use of diesel fuel, gasoline, and other fuels. Energy use during construction typically involves the use of motor vehicles for transportation of workers and materials and the use of motorized equipment for direct construction actions such as moving soil and demolishing structures. The estimated combined construction energy that would be used during construction activities is shown in Table 13, *Construction Energy Use*. As shown in Table 13, total Program construction activities would result in the consumption of approximately 179,491 gallons of diesel fuel and approximately 16,155 gallons of gasoline. The total construction energy use would be approximately 26,952 MMBTUs.

Table 13
CONSTRUCTION ENERGY USE

Source	Diesel (gallons)	Gasoline (gallons)	Total Energy (MMBTU)
Off-Road Construction Vehicles	179,378	-	24,934
On-Road Construction Vehicles	113	16,155	2,019
TOTAL[1]	179,491	16,155	26,952

Source: CalEEMod; CARB EMFAC2021; CARB OFFROAD2017; Appendix B.
[1] Totals may not sum due to rounding.
MMBTU = million British thermal units per year

Construction activities are not anticipated to result in an inefficient use of energy. Since the use of gasoline and diesel fuel would be a significant portion of construction costs, contractors and equipment operators would minimize the use of fuel within the constraints of Program requirements. Construction equipment would be maintained in optimal working order and rated energy efficient and on-site vehicle idling would be minimized to reduce the use of gasoline and diesel.

Due to the short-term nature of the construction activities and the total amount of diesel and gasoline fuel anticipated to be consumed, the Program's consumption of energy (primarily diesel fuel) during construction would not represent a substantial demand on energy resources or result in the need to develop any new, or alter any existing, energy production or distribution facilities. In addition, construction-related energy would not be used in a wasteful, inefficient, or unnecessary manner.

7.1.2 Operational Energy Use

Energy use associated with operation would occur from electricity use at the OMG Lift Station and diesel fuel use from the emergency generator. As discussed previously, the OMG Lift Station is anticipated to consume up to 800 MWh of electricity per year. The emergency generator is estimated to consume a total of 48 gallons of diesel fuel per year. The Program's overall operational energy is summarized in Table 14, *Operational Energy Use*. As shown therein, the total operational energy use is estimated to be 2,736 MMBTU per year.

Table 14
OPERATIONAL ENERGY USE

Source	Diesel (gallons)	Electricity (MWh)	Total Energy (MMBTU)
Emergency Generator	48		7
OMG Lift Station Pumps		800	2,730
TOTAL[1]	48	800	2,736

Source: CalEEMod; CARB EMFAC2021; CARB OFFROAD2017; Appendix B.
[1] Totals may not sum due to rounding.
MMBTU = million British thermal units per year

The purpose of the Program is to make necessary improvements to the existing sewer infrastructure, as well as additional infrastructure necessary to accommodate planned growth in the area. Energy usage would be limited to operations necessary for successful completion of the Program. Therefore, the Program would not consume energy in a wasteful, inefficient, or unnecessary manner, and impacts would be less than significant**.**

7.2 CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY

The Program is located within the SDG&E planning area which is covered by the LTPP. As discussed in Section 2.3.3, the current LTPP plans for higher levels of demand than has actually occurred. Thus, the Program would not result in an unanticipated increase of energy demand beyond what is already planned for and included in the LTPP. Additionally, SDG&E has surpassed the 2019 annual RPS percentage target of 31 percent and is on track to meet the 60 percent 2030 RPS procurement mandate. The Program would not conflict with these adopted plans and policies and impacts would be less than significant.

8.0 LIST OF PREPARERS

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Vanessa Toscano	Project Manager

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Appendix A

CalEEMod Outputs

Oceanside Sewer Improvements Program Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Oceanside Sewer Improvements Program
Construction Start Date	9/1/2025
Operational Year	2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	12.0
Location	3950 N River Rd, Oceanside, CA 92058, USA
County	San Diego
City	Oceanside
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6242
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	1.00	User Defined Unit	1.00	1.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	55.4	54.4	29.9	118	0.07	1.74	2.16	2.64	1.45	1.02	1.66	—	7,925	7,925	0.33	0.09	2.88	7,959
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	55.6	54.6	38.6	120	0.09	2.07	2.75	4.82	1.76	1.16	2.92	—	10,265	10,265	0.43	0.11	0.07	10,308
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	21.4	21.0	18.4	44.5	0.04	0.70	0.39	1.03	0.63	0.17	0.71	—	4,742	4,742	0.20	0.05	0.56	4,763
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.90	3.84	3.36	8.12	0.01	0.13	0.07	0.19	0.12	0.03	0.13	—	785	785	0.03	0.01	0.09	788

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.42	1.20	10.7	11.3	0.02	0.48	2.16	2.64	0.44	1.02	1.47	—	1,915	1,915	0.08	0.02	0.36	1,923

2026	28.7	28.1	29.7	71.3	0.07	1.21	0.53	1.68	1.04	0.12	1.15	—	7,925	7,925	0.33	0.08	2.03	7,959
2027	27.7	27.2	27.4	61.0	0.06	1.04	0.53	1.57	0.96	0.12	1.08	—	6,701	6,701	0.27	0.07	1.85	6,730
2028	55.4	54.4	29.9	118	0.07	1.74	0.91	2.64	1.45	0.21	1.66	—	7,465	7,465	0.28	0.09	2.88	7,501
2029	1.11	0.94	7.12	10.7	0.01	0.25	0.21	0.46	0.23	0.05	0.28	—	1,655	1,655	0.06	0.02	0.60	1,663
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	55.6	54.6	32.5	115	0.06	2.07	2.75	4.82	1.76	1.16	2.92	—	6,956	6,956	0.29	0.08	0.07	6,987
2026	55.4	54.5	38.6	120	0.09	1.92	0.74	2.62	1.62	0.17	1.78	—	10,265	10,265	0.43	0.11	0.07	10,308
2027	54.0	53.2	21.3	103	0.05	1.49	0.51	2.00	1.23	0.12	1.35	—	5,217	5,217	0.22	0.06	0.05	5,240
2028	55.0	54.1	30.9	117	0.07	1.63	0.89	2.48	1.36	0.21	1.56	—	7,841	7,841	0.30	0.09	0.07	7,876
2029	0.56	0.47	4.16	7.03	0.01	0.13	0.11	0.23	0.12	0.02	0.14	—	1,383	1,383	0.05	0.01	0.01	1,388
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	6.77	6.63	4.95	15.0	0.01	0.29	0.39	0.69	0.25	0.17	0.42	—	1,056	1,056	0.04	0.01	0.15	1,060
2026	6.77	6.36	18.4	33.5	0.04	0.70	0.33	1.03	0.63	0.08	0.71	—	4,742	4,742	0.20	0.05	0.56	4,763
2027	13.2	12.9	12.1	34.2	0.03	0.59	0.26	0.85	0.51	0.06	0.57	—	3,040	3,040	0.13	0.03	0.39	3,054
2028	21.4	21.0	10.7	44.5	0.02	0.63	0.31	0.94	0.53	0.07	0.60	—	2,731	2,731	0.10	0.03	0.43	2,743
2029	0.11	0.10	0.79	1.19	< 0.005	0.03	0.02	0.05	0.02	< 0.005	0.03	—	214	214	0.01	< 0.005	0.02	215
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.23	1.21	0.90	2.74	< 0.005	0.05	0.07	0.13	0.05	0.03	0.08	—	175	175	0.01	< 0.005	0.03	176
2026	1.24	1.16	3.36	6.11	0.01	0.13	0.06	0.19	0.12	0.01	0.13	—	785	785	0.03	0.01	0.09	788
2027	2.41	2.35	2.21	6.24	< 0.005	0.11	0.05	0.16	0.09	0.01	0.10	—	503	503	0.02	0.01	0.06	506
2028	3.90	3.84	1.96	8.12	< 0.005	0.12	0.06	0.17	0.10	0.01	0.11	—	452	452	0.02	0.01	0.07	454
2029	0.02	0.02	0.14	0.22	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	0.01	—	35.5	35.5	< 0.005	< 0.005	< 0.005	35.6

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	659	659	0.08	0.01	0.00	665
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	659	659	0.08	0.01	0.00	665
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.05	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	381	381	0.07	0.01	0.00	386
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	63.1	63.1	0.01	< 0.005	0.00	63.9

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	372	372	0.07	0.01	—	376
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	288	288	0.01	< 0.005	0.00	288
Total	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	659	659	0.08	0.01	0.00	665

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	372	372	0.07	0.01	—	376
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	288	288	0.01	< 0.005	0.00	288
Total	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	659	659	0.08	0.01	0.00	665
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	372	372	0.07	0.01	—	376
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.02	0.02	0.05	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	9.45	9.45	< 0.005	< 0.005	0.00	9.48
Total	0.02	0.02	0.05	0.05	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	381	381	0.07	0.01	0.00	386
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	61.6	61.6	0.01	< 0.005	—	62.3
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	1.57	1.57	< 0.005	< 0.005	0.00	1.57
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	63.1	63.1	0.01	< 0.005	0.00	63.9

3. Construction Emissions Details

3.1. OMG FM Dewatering (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.85	4.22	0.01	0.10	—	0.10	0.09	—	0.09	—	681	681	0.03	0.01	—	683
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.34	0.50	< 0.005	0.01	—	0.01	0.01	—	0.01	—	81.3	81.3	< 0.005	< 0.005	—	81.6
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.5	13.5	< 0.005	< 0.005	—	13.5
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.2	67.2	< 0.005	< 0.005	0.01	68.1
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.09	8.09	< 0.005	< 0.005	0.01	8.21
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.34	1.34	< 0.005	< 0.005	< 0.005	1.36
Vendor	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	0.00
Hauling	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	0.00

3.3. OMG FM Dewatering (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.72	4.22	0.01	0.09	—	0.09	0.08	—	0.08	—	682	682	0.03	0.01	—	685
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.43	0.67	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	< 0.005	< 0.005	—	109
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.9	17.9	< 0.005	< 0.005	—	18.0
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	65.8	65.8	< 0.005	< 0.005	0.01	66.7
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	10.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.74	1.74	< 0.005	< 0.005	< 0.005	1.77
Vendor	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	0.00
Hauling	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	0.00

3.5. LOR A&B Dewatering (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.43	0.36	3.48	4.98	0.01	0.12	—	0.12	0.11	—	0.11	—	787	787	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.42	0.59	< 0.005	0.01	—	0.01	0.01	—	0.01	—	94.0	94.0	< 0.005	< 0.005	—	94.3
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.6
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.8	10.8	< 0.005	< 0.005	0.02	10.9
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.81
Vendor	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	0.00
Hauling	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	0.00

3.7. LOR A&B Dewatering (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.34	4.98	0.01	0.11	—	0.11	0.10	—	0.10	—	789	789	0.03	0.01	—	791

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.53	0.79	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	125
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.7	20.7	< 0.005	< 0.005	—	20.8
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	87.8	87.8	< 0.005	< 0.005	0.01	89.0

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.2
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.36
Vendor	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	0.00
Hauling	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	0.00

3.9. LOR C1 Dewatering (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.26	4.99	0.01	0.10	—	0.10	0.09	—	0.09	—	788	788	0.03	0.01	—	791
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.40	0.33	3.26	4.99	0.01	0.10	—	0.10	0.09	—	0.09	—	788	788	0.03	0.01	—	791
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.16	0.13	1.27	1.94	< 0.005	0.04	—	0.04	0.03	—	0.03	—	307	307	0.01	< 0.005	—	308
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.03	0.02	0.23	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	50.8	50.8	< 0.005	< 0.005	—	51.0
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	91.4	91.4	< 0.005	< 0.005	0.30	92.8
Vendor	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	0.00

Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	86.3	86.3	< 0.005	< 0.005	0.01	87.5
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.9	33.9	< 0.005	< 0.005	0.05	34.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.61	5.61	< 0.005	< 0.005	0.01	5.69
Vendor	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	0.00
Hauling	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	0.00

3.11. LOR C1 Dewatering (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.22	5.01	0.01	0.09	—	0.09	0.08	—	0.08	—	788	788	0.03	0.01	—	791
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.22	5.01	0.01	0.09	—	0.09	0.08	—	0.08	—	788	788	0.03	0.01	—	791
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.05	1.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	257	257	0.01	< 0.005	—	258
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	42.6	42.6	< 0.005	< 0.005	—	42.8
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.8	89.8	< 0.005	< 0.005	0.27	91.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	84.8	84.8	< 0.005	< 0.005	0.01	85.8
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.0	28.0	< 0.005	< 0.005	0.04	28.3
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.63	4.63	< 0.005	< 0.005	0.01	4.69
Vendor	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	0.00
Hauling	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	0.00

3.13. LOR C2 Dewatering (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.40	0.33	3.22	5.01	0.01	0.09	—	0.09	0.08	—	0.08	—	788	788	0.03	0.01	—	791
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.22	5.01	0.01	0.09	—	0.09	0.08	—	0.08	—	788	788	0.03	0.01	—	791
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.50	0.78	< 0.005	0.01	—	0.01	0.01	—	0.01	—	123	123	< 0.005	< 0.005	—	123
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.4	20.4	< 0.005	< 0.005	—	20.4

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.8	89.8	< 0.005	< 0.005	0.27	91.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	84.8	84.8	< 0.005	< 0.005	0.01	85.8
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.5
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.21	2.21	< 0.005	< 0.005	< 0.005	2.24
Vendor	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	0.00
Hauling	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	0.00

3.15. LOR D Dewatering (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.34	4.98	0.01	0.11	—	0.11	0.10	—	0.10	—	789	789	0.03	0.01	—	791
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.34	4.98	0.01	0.11	—	0.11	0.10	—	0.10	—	789	789	0.03	0.01	—	791
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.49	0.74	< 0.005	0.02	—	0.02	0.01	—	0.01	—	117	117	< 0.005	< 0.005	—	117
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.3	19.3	< 0.005	< 0.005	—	19.4
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.43	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	93.0	93.0	< 0.005	< 0.005	0.33	94.4
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	87.8	87.8	< 0.005	< 0.005	0.01	89.0
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.1	13.1	< 0.005	< 0.005	0.02	13.3
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.17	2.17	< 0.005	< 0.005	< 0.005	2.20

Vendor	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	0.00
Hauling	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	0.00

3.17. MALS FM Dewatering (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.85	4.22	0.01	0.10	—	0.10	0.09	—	0.09	—	681	681	0.03	0.01	—	683
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.34	0.50	< 0.005	0.01	—	0.01	0.01	—	0.01	—	81.3	81.3	< 0.005	< 0.005	—	81.6
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.5	13.5	< 0.005	< 0.005	—	13.5
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.2	67.2	< 0.005	< 0.005	0.01	68.1
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.09	8.09	< 0.005	< 0.005	0.01	8.21
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.34	1.34	< 0.005	< 0.005	< 0.005	1.36
Vendor	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	0.00
Hauling	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	0.00

3.19. MALS FM Dewatering (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.72	4.22	0.01	0.09	—	0.09	0.08	—	0.08	—	682	682	0.03	0.01	—	685
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.43	0.67	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	< 0.005	< 0.005	—	109
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.9	17.9	< 0.005	< 0.005	—	18.0

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	65.8	65.8	< 0.005	< 0.005	0.01	66.7
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	10.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.74	1.74	< 0.005	< 0.005	< 0.005	1.77
Vendor	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	0.00
Hauling	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	0.00

3.21. MA SL&R Dewatering (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.65	4.23	0.01	0.08	—	0.08	0.07	—	0.07	—	682	682	0.03	0.01	—	684
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.24	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	62.7	62.7	< 0.005	< 0.005	—	62.9
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.4	10.4	< 0.005	< 0.005	—	10.4
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.7	64.7	< 0.005	< 0.005	0.01	65.6
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.01	6.01	< 0.005	< 0.005	0.01	6.09
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.99	0.99	< 0.005	< 0.005	< 0.005	1.01
Vendor	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	0.00
Hauling	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	0.00

3.23. MA SL&R Dewatering (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.32	0.27	2.62	4.24	0.01	0.08	—	0.08	0.07	—	0.07	—	682	682	0.03	0.01	—	684
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.34	9.34	< 0.005	< 0.005	—	9.37
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.55	1.55	< 0.005	< 0.005	—	1.55
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	63.6	63.6	< 0.005	< 0.005	0.01	64.4
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.88	0.88	< 0.005	< 0.005	< 0.005	0.89
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Vendor	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	0.00
Hauling	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	0.00

3.25. OMG LS Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.38	1.16	10.7	10.8	0.02	0.48	—	0.48	0.44	—	0.44	—	1,820	1,820	0.07	0.01	—	1,826
Dust From Material Movement	—	—	—	—	—	—	2.07	2.07	—	1.00	1.00	—	—	—	—	—	—	—

Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.38	1.16	10.7	10.8	0.02	0.48	—	0.48	0.44	—	0.44	—	1,820	1,820	0.07	0.01	—	1,826
Dust From Material Movement	—	—	—	—	—	—	2.07	2.07	—	1.00	1.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.17	1.61	1.63	< 0.005	0.07	—	0.07	0.07	—	0.07	—	274	274	0.01	< 0.005	—	275
Dust From Material Movement	—	—	—	—	—	—	0.31	0.31	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.4	45.4	< 0.005	< 0.005	—	45.6
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	94.9	94.9	< 0.005	< 0.005	0.36	96.3
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.6	13.6	< 0.005	< 0.005	0.02	13.8
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.26	2.26	< 0.005	< 0.005	< 0.005	2.29
Vendor	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	0.00
Hauling	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	0.00

3.27. OMG LS Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.02	0.85	8.08	10.2	0.02	0.33	—	0.33	0.30	—	0.30	—	1,830	1,830	0.07	0.01	—	1,836
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.73	0.92	< 0.005	0.03	—	0.03	0.03	—	0.03	—	165	165	0.01	< 0.005	—	165
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.17	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	27.3	27.3	< 0.005	< 0.005	—	27.4
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.29. OMG LS Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.98	0.82	7.74	10.2	0.02	0.30	—	0.30	0.27	—	0.27	—	1,830	1,830	0.07	0.01	—	1,836
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.98	0.82	7.74	10.2	0.02	0.30	—	0.30	0.27	—	0.27	—	1,830	1,830	0.07	0.01	—	1,836
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.70	0.59	5.53	7.25	0.01	0.21	—	0.21	0.20	—	0.20	—	1,307	1,307	0.05	0.01	—	1,311
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	1.32	< 0.005	0.04	—	0.04	0.04	—	0.04	—	216	216	0.01	< 0.005	—	217
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Hauling	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	0.00

3.31. OMG LS Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.50	10.2	0.02	0.28	—	0.28	0.25	—	0.25	—	1,830	1,830	0.07	0.01	—	1,836
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	7.50	10.2	0.02	0.28	—	0.28	0.25	—	0.25	—	1,830	1,830	0.07	0.01	—	1,836
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.44	3.30	0.01	0.09	—	0.09	0.08	—	0.08	—	594	594	0.02	< 0.005	—	596
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.06	0.05	0.44	0.60	< 0.005	0.02	—	0.02	0.02	—	0.02	—	98.4	98.4	< 0.005	< 0.005	—	98.7
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.33. OMG FM Pressure Test and Valve Installation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.03	4.39	0.01	0.15	—	0.15	0.14	—	0.14	—	971	971	0.04	0.01	—	974
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.19	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.2	45.2	< 0.005	< 0.005	—	45.4
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.49	7.49	< 0.005	< 0.005	—	7.51
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.35. LOR A&B Pressure Test and Valve Installation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.03	4.39	0.01	0.15	—	0.15	0.14	—	0.14	—	971	971	0.04	0.01	—	974
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.03	0.02	0.19	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.2	45.2	< 0.005	< 0.005	—	45.4
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.49	7.49	< 0.005	< 0.005	—	7.51
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.37. LOR C1 Pressure Test and Valve Installation (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.45	3.86	4.39	0.01	0.14	—	0.14	0.13	—	0.13	—	971	971	0.04	0.01	—	974
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.6	26.6	< 0.005	< 0.005	—	26.7
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.40	4.40	< 0.005	< 0.005	—	4.42
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.39. LOR C2 Pressure Test and Valve Installation (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.44	3.72	4.37	0.01	0.14	—	0.14	0.13	—	0.13	—	971	971	0.04	0.01	—	974
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.6	26.6	< 0.005	< 0.005	—	26.7
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.40	4.40	< 0.005	< 0.005	—	4.42
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.41. LOR D Pressure Test and Valve Installation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.03	4.39	0.01	0.15	—	0.15	0.14	—	0.14	—	971	971	0.04	0.01	—	974
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.80	3.80	< 0.005	< 0.005	—	3.81
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.63	0.63	< 0.005	< 0.005	—	0.63
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.43. LOR D Pressure Test and Valve Installation (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.45	3.86	4.39	0.01	0.14	—	0.14	0.13	—	0.13	—	971	971	0.04	0.01	—	974
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.8	22.8	< 0.005	< 0.005	—	22.9
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.78	3.78	< 0.005	< 0.005	—	3.79
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.45. MALS FM Pressure Test (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.28	2.39	2.86	0.01	0.09	—	0.09	0.08	—	0.08	—	476	476	0.02	< 0.005	—	477
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.2	22.2	< 0.005	< 0.005	—	22.2
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.67	3.67	< 0.005	< 0.005	—	3.68
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.47. MA SL&R Pipe Testing (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.27	2.36	2.86	0.01	0.08	—	0.08	0.08	—	0.08	—	476	476	0.02	< 0.005	—	477
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.82	7.82	< 0.005	< 0.005	—	7.85
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.29	1.29	< 0.005	< 0.005	—	1.30
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	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	0.00

3.49. OMG FM Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	3.94	5.35	0.01	0.16	—	0.16	0.15	—	0.15	—	793	793	0.03	0.01	—	796
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.58	0.79	< 0.005	0.02	—	0.02	0.02	—	0.02	—	117	117	< 0.005	< 0.005	—	118
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.4	19.4	< 0.005	< 0.005	—	19.5
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	114	114	0.01	< 0.005	0.37	116
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.02	16.3
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.70
Vendor	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	0.00
Hauling	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	0.00

3.51. LOR A&B Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.10	0.93	7.35	9.76	0.01	0.29	—	0.29	0.27	—	0.27	—	1,435	1,435	0.06	0.01	—	1,439

Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.09	1.44	< 0.005	0.04	—	0.04	0.04	—	0.04	—	212	212	0.01	< 0.005	—	213
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.20	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.1	35.1	< 0.005	< 0.005	—	35.3
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.02	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	228	228	0.01	0.01	0.74	232
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.2	32.2	< 0.005	< 0.005	0.05	32.7
Vendor	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	0.00
Hauling	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.33	5.33	< 0.005	< 0.005	0.01	5.41
Vendor	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	0.00
Hauling	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	0.00

3.53. LOR C1 Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.05	0.88	7.18	9.74	0.01	0.26	—	0.26	0.24	—	0.24	—	1,435	1,435	0.06	0.01	—	1,440
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.39	0.53	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.6	78.6	< 0.005	< 0.005	—	78.9
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.1

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	0.97	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	224	224	< 0.005	0.01	0.67	228
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.02	11.9
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	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	0.00
Hauling	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	0.00

3.55. LOR C2 Paving (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.02	0.86	7.06	9.76	0.01	0.25	—	0.25	0.23	—	0.23	—	1,435	1,435	0.06	0.01	—	1,440
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.39	0.53	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.6	78.6	< 0.005	< 0.005	—	78.9
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	0.91	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	221	221	< 0.005	0.01	0.60	224
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.01	11.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.91	1.91	< 0.005	< 0.005	< 0.005	1.93
Vendor	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	0.00
Hauling	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	0.00

3.57. LOR D Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.05	0.88	7.18	9.74	0.01	0.26	—	0.26	0.24	—	0.24	—	1,435	1,435	0.06	0.01	—	1,440
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.39	0.53	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.6	78.6	< 0.005	< 0.005	—	78.9
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.85	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	212	212	< 0.005	0.01	0.02	215
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.02	11.9
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	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	0.00
Hauling	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	0.00

3.59. MALS FM Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.56	0.47	3.94	5.35	0.01	0.16	—	0.16	0.15	—	0.15	—	793	793	0.03	0.01	—	796
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.07	0.06	0.48	0.64	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.6	95.6	< 0.005	< 0.005	—	96.0
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	114	114	0.01	< 0.005	0.37	116
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.1	13.1	< 0.005	< 0.005	0.02	13.3

Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.17	2.17	< 0.005	< 0.005	< 0.005	2.20
Vendor	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	0.00
Hauling	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	0.00

3.61. MA SL&R Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.44	3.83	5.34	0.01	0.15	—	0.15	0.13	—	0.13	—	793	793	0.03	0.01	—	796
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.7	21.7	< 0.005	< 0.005	—	21.8
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.60	3.60	< 0.005	< 0.005	—	3.61
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	< 0.005	< 0.005	0.34	114
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.93	2.93	< 0.005	< 0.005	< 0.005	2.97
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.48	0.48	< 0.005	< 0.005	< 0.005	0.49
Vendor	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	0.00
Hauling	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	0.00

3.63. OMG FM Pavement Removal and Excavation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	0.39	3.47	4.64	0.01	0.11	—	0.11	0.10	—	0.10	—	659	659	0.03	0.01	—	661
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.41	0.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	78.6	78.6	< 0.005	< 0.005	—	78.9
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.27
Vendor	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	0.00
Hauling	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	0.00

3.65. OMG FM Pavement Removal and Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.45	0.38	3.37	4.64	0.01	0.10	—	0.10	0.09	—	0.09	—	658	658	0.03	0.01	—	661
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.73	7.73	< 0.005	< 0.005	—	7.76
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.28	1.28	< 0.005	< 0.005	—	1.28
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.48	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	110	110	0.01	< 0.005	0.01	111
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.30	1.30	< 0.005	< 0.005	< 0.005	1.32
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
Vendor	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	0.00
Hauling	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	0.00

3.67. OMG FM Pipeline Installation and Backfill (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.26	0.22	2.17	3.63	0.01	0.07	—	0.07	0.06	—	0.06	—	542	542	0.02	< 0.005	—	544
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.26	0.22	2.17	3.63	0.01	0.07	—	0.07	0.06	—	0.06	—	542	542	0.02	< 0.005	—	544
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.19	0.16	1.52	2.55	< 0.005	0.05	—	0.05	0.05	—	0.05	—	381	381	0.02	< 0.005	—	382
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.03	0.03	0.28	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	63.0	63.0	< 0.005	< 0.005	—	63.2
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.32	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	69.7	69.7	< 0.005	< 0.005	0.24	70.8
Vendor	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	0.00
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	65.8	65.8	< 0.005	< 0.005	0.01	66.7
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	46.7	46.7	< 0.005	< 0.005	0.07	47.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.73	7.73	< 0.005	< 0.005	0.01	7.84
Vendor	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	0.00
Hauling	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	0.00

3.69. OMG FM Pipeline Installation and Backfill (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	2.10	3.63	0.01	0.06	—	0.06	0.06	—	0.06	—	542	542	0.02	< 0.005	—	544
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.7	29.7	< 0.005	< 0.005	—	29.8
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.91	4.91	< 0.005	< 0.005	—	4.93
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.7	64.7	< 0.005	< 0.005	0.01	65.6
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.58	3.58	< 0.005	< 0.005	0.01	3.63
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.60
Vendor	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	0.00
Hauling	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	0.00

3.71. OMG FM Pit and HDD (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.52	5.10	6.63	0.01	0.18	—	0.18	0.16	—	0.16	—	1,307	1,307	0.05	0.01	—	1,312
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.52	5.10	6.63	0.01	0.18	—	0.18	0.16	—	0.16	—	1,307	1,307	0.05	0.01	—	1,312
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.62	2.11	< 0.005	0.06	—	0.06	0.05	—	0.05	—	415	415	0.02	< 0.005	—	417
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	68.8	68.8	< 0.005	< 0.005	—	69.0

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.54	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	116	116	0.01	< 0.005	0.41	118
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.48	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	110	110	0.01	< 0.005	0.01	111
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	35.2	35.2	< 0.005	< 0.005	0.06	35.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.82	5.82	< 0.005	< 0.005	0.01	5.91
Vendor	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	0.00
Hauling	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	0.00

3.73. OMG FM Connection to LS (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.44	3.90	4.35	0.01	0.14	—	0.14	0.13	—	0.13	—	940	940	0.04	0.01	—	943
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	69.5	69.5	< 0.005	< 0.005	—	69.8
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.5	11.5	< 0.005	< 0.005	—	11.6
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.45	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.01	109
Vendor	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	0.00

Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.05	8.05	< 0.005	< 0.005	0.01	8.16
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	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	0.00
Hauling	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	0.00

3.75. LOR A&B Pavement Removal and Excavation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	26.3	26.0	5.50	42.9	0.01	0.61	—	0.61	0.49	—	0.49	—	1,021	1,021	0.04	0.01	—	1,024
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.13	3.10	0.66	5.12	< 0.005	0.07	—	0.07	0.06	—	0.06	—	122	122	< 0.005	< 0.005	—	122

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.57	0.57	0.12	0.93	< 0.005	0.01	—	0.01	0.01	—	0.01	—	20.2	20.2	< 0.005	< 0.005	—	20.2
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.81	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	182
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.6	21.6	< 0.005	< 0.005	0.04	21.9
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.57	3.57	< 0.005	< 0.005	0.01	3.63
Vendor	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	0.00
Hauling	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	0.00

3.77. LOR A&B Pavement Removal and Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	26.2	26.0	5.33	42.8	0.01	0.59	—	0.59	0.47	—	0.47	—	1,020	1,020	0.04	0.01	—	1,024
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	0.07	0.59	< 0.005	0.01	—	0.01	0.01	—	0.01	—	14.0	14.0	< 0.005	< 0.005	—	14.0
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.01	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.31	2.31	< 0.005	< 0.005	—	2.32
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.76	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	0.01	0.01	0.02	178

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.43	2.43	< 0.005	< 0.005	< 0.005	2.46
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.41
Vendor	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	0.00
Hauling	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	0.00

3.79. LOR A&B Pipeline Installation and Backfill (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.78	4.39	0.01	0.09	—	0.09	0.08	—	0.08	—	648	648	0.03	0.01	—	650
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.78	4.39	0.01	0.09	—	0.09	0.08	—	0.08	—	648	648	0.03	0.01	—	650

Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	3.08	< 0.005	0.06	—	0.06	0.06	—	0.06	—	455	455	0.02	< 0.005	—	457
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.56	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.4	75.4	< 0.005	< 0.005	—	75.6
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.43	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	93.0	93.0	< 0.005	< 0.005	0.33	94.4
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	87.8	87.8	< 0.005	< 0.005	0.01	89.0
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	62.2	62.2	< 0.005	< 0.005	0.10	63.1
Vendor	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	0.00

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	10.5
Vendor	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	0.00
Hauling	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	0.00

3.81. LOR A&B Pipeline Installation and Backfill (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.70	4.39	0.01	0.08	—	0.08	0.07	—	0.07	—	648	648	0.03	0.01	—	650
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.5	35.5	< 0.005	< 0.005	—	35.6
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.88	5.88	< 0.005	< 0.005	—	5.90
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	86.3	86.3	< 0.005	< 0.005	0.01	87.5
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.77	4.77	< 0.005	< 0.005	0.01	4.84
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	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	0.00
Hauling	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	0.00

3.83. LOR A&B Pit and HDD (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.65	6.63	0.01	0.16	—	0.16	0.15	—	0.15	—	1,280	1,280	0.05	0.01	—	1,284
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.65	6.63	0.01	0.16	—	0.16	0.15	—	0.15	—	1,280	1,280	0.05	0.01	—	1,284
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.15	1.48	2.11	< 0.005	0.05	—	0.05	0.05	—	0.05	—	407	407	0.02	< 0.005	—	408
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	67.3	67.3	< 0.005	< 0.005	—	67.6
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.05	0.05	0.03	0.54	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	116	116	0.01	< 0.005	0.41	118
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.48	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	110	110	0.01	< 0.005	0.01	111
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	35.2	35.2	< 0.005	< 0.005	0.06	35.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.82	5.82	< 0.005	< 0.005	0.01	5.91
Vendor	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	0.00
Hauling	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	0.00

3.85. LOR C1 Pavement Removal and Excavation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	26.2	25.9	5.22	42.8	0.01	0.57	—	0.57	0.45	—	0.45	—	1,020	1,020	0.04	0.01	—	1,024

Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	26.2	25.9	5.22	42.8	0.01	0.57	—	0.57	0.45	—	0.45	—	1,020	1,020	0.04	0.01	—	1,024
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	10.2	10.1	2.03	16.7	< 0.005	0.22	—	0.22	0.18	—	0.18	—	397	397	0.02	< 0.005	—	399
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.86	1.84	0.37	3.04	< 0.005	0.04	—	0.04	0.03	—	0.03	—	65.8	65.8	< 0.005	< 0.005	—	66.0
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.82	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.59	186
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.06	0.72	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	173	173	0.01	0.01	0.02	175
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.28	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	67.8	67.8	< 0.005	< 0.005	0.10	68.8
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.2	11.2	< 0.005	< 0.005	0.02	11.4
Vendor	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	0.00
Hauling	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	0.00

3.87. LOR C1 Pavement Removal and Excavation (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	26.2	25.9	5.13	42.8	0.01	0.56	—	0.56	0.44	—	0.44	—	1,020	1,020	0.04	0.01	—	1,024
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	26.2	25.9	5.13	42.8	0.01	0.56	—	0.56	0.44	—	0.44	—	1,020	1,020	0.04	0.01	—	1,024
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	8.55	8.47	1.68	14.0	< 0.005	0.18	—	0.18	0.14	—	0.14	—	333	333	0.01	< 0.005	—	335
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.55	0.31	2.55	< 0.005	0.03	—	0.03	0.03	—	0.03	—	55.2	55.2	< 0.005	< 0.005	—	55.4
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	180	180	< 0.005	0.01	0.54	182
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.68	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	170	170	< 0.005	0.01	0.01	172
Vendor	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	0.00
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.22	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	55.9	55.9	< 0.005	< 0.005	0.08	56.6
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.26	9.26	< 0.005	< 0.005	0.01	9.38
Vendor	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	0.00
Hauling	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	0.00

3.89. LOR C1 Pipe Installation and Backfill (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.70	4.39	0.01	0.08	—	0.08	0.07	—	0.07	—	648	648	0.03	0.01	—	650
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.70	4.39	0.01	0.08	—	0.08	0.07	—	0.07	—	648	648	0.03	0.01	—	650
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.05	1.71	< 0.005	0.03	—	0.03	0.03	—	0.03	—	252	252	0.01	< 0.005	—	253
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.8	41.8	< 0.005	< 0.005	—	41.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	91.4	91.4	< 0.005	< 0.005	0.30	92.8
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	86.3	86.3	< 0.005	< 0.005	0.01	87.5
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.9	33.9	< 0.005	< 0.005	0.05	34.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.61	5.61	< 0.005	< 0.005	0.01	5.69
Vendor	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	0.00
Hauling	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	0.00

3.91. LOR C1 Pipe Installation and Backfill (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.27	2.65	4.40	0.01	0.07	—	0.07	0.06	—	0.06	—	648	648	0.03	0.01	—	650
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.27	2.65	4.40	0.01	0.07	—	0.07	0.06	—	0.06	—	648	648	0.03	0.01	—	650
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.86	1.44	< 0.005	0.02	—	0.02	0.02	—	0.02	—	212	212	0.01	< 0.005	—	213
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.1	35.1	< 0.005	< 0.005	—	35.2
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.8	89.8	< 0.005	< 0.005	0.27	91.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	84.8	84.8	< 0.005	< 0.005	0.01	85.8
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.0	28.0	< 0.005	< 0.005	0.04	28.3
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.63	4.63	< 0.005	< 0.005	0.01	4.69
Vendor	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	0.00
Hauling	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	0.00

3.93. LOR C1 HDD (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.44	4.29	6.65	0.01	0.13	—	0.13	0.12	—	0.12	—	1,279	1,279	0.05	0.01	—	1,283
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.44	4.29	6.65	0.01	0.13	—	0.13	0.12	—	0.12	—	1,279	1,279	0.05	0.01	—	1,283
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.71	1.09	< 0.005	0.02	—	0.02	0.02	—	0.02	—	210	210	0.01	< 0.005	—	211
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.8	34.8	< 0.005	< 0.005	—	34.9
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	< 0.005	< 0.005	0.34	114
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.42	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.01	107
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.6	17.6	< 0.005	< 0.005	0.02	17.8
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.91	2.91	< 0.005	< 0.005	< 0.005	2.95
Vendor	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	0.00
Hauling	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	0.00

3.95. LOR C2 Pavement Removal and Excavation (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	26.2	25.9	5.13	42.8	0.01	0.56	—	0.56	0.44	—	0.44	—	1,020	1,020	0.04	0.01	—	1,024
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	26.2	25.9	5.13	42.8	0.01	0.56	—	0.56	0.44	—	0.44	—	1,020	1,020	0.04	0.01	—	1,024
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	11.7	11.6	2.29	19.1	< 0.005	0.25	—	0.25	0.20	—	0.20	—	456	456	0.02	< 0.005	—	457
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.13	2.11	0.42	3.49	< 0.005	0.05	—	0.05	0.04	—	0.04	—	75.4	75.4	< 0.005	< 0.005	—	75.7
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	180	180	< 0.005	0.01	0.54	182
Vendor	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	0.00
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.68	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	170	170	< 0.005	0.01	0.01	172
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.31	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	76.4	76.4	< 0.005	< 0.005	0.10	77.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.6	12.6	< 0.005	< 0.005	0.02	12.8
Vendor	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	0.00
Hauling	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	0.00

3.97. LOR C2 HDD (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.44	4.29	6.65	0.01	0.13	—	0.13	0.12	—	0.12	—	1,279	1,279	0.05	0.01	—	1,283
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.65	1.00	< 0.005	0.02	—	0.02	0.02	—	0.02	—	193	193	0.01	< 0.005	—	193
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.9	31.9	< 0.005	< 0.005	—	32.0
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.42	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.01	107
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.02	16.3
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.70
Vendor	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	0.00
Hauling	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	0.00

3.99. LOR C2 HDD (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	4.13	6.63	0.01	0.13	—	0.13	0.12	—	0.12	—	1,278	1,278	0.05	0.01	—	1,283
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.47	< 0.005	0.01	—	0.01	0.01	—	0.01	—	90.1	90.1	< 0.005	< 0.005	—	90.4
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.9	14.9	< 0.005	< 0.005	—	15.0
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.40	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	104	104	< 0.005	< 0.005	0.01	105
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.40	7.40	< 0.005	< 0.005	0.01	7.50
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.23	1.23	< 0.005	< 0.005	< 0.005	1.24
Vendor	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	0.00
Hauling	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	0.00

3.101. LOR C2 Pipe Installation and Backfill (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.27	2.65	4.40	0.01	0.07	—	0.07	0.06	—	0.06	—	648	648	0.03	0.01	—	650
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.38	0.63	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.3	92.3	< 0.005	< 0.005	—	92.6
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.3
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.8	89.8	< 0.005	< 0.005	0.27	91.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	12.3
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.02	2.02	< 0.005	< 0.005	< 0.005	2.04
Vendor	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	0.00
Hauling	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	0.00

3.103. LOR D Pavement Removal and Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	26.2	26.0	5.33	42.8	0.01	0.59	—	0.59	0.47	—	0.47	—	1,020	1,020	0.04	0.01	—	1,024
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	26.2	26.0	5.33	42.8	0.01	0.59	—	0.59	0.47	—	0.47	—	1,020	1,020	0.04	0.01	—	1,024
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74	3.70	0.76	6.10	< 0.005	0.08	—	0.08	0.07	—	0.07	—	145	145	0.01	< 0.005	—	146
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.68	0.14	1.11	< 0.005	0.02	—	0.02	0.01	—	0.01	—	24.1	24.1	< 0.005	< 0.005	—	24.1

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.86	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	186	186	0.01	0.01	0.65	189
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.76	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	0.01	0.01	0.02	178
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.2	25.2	< 0.005	< 0.005	0.04	25.6
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.18	4.18	< 0.005	< 0.005	0.01	4.24
Vendor	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	0.00
Hauling	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	0.00

3.105. LOR D Pipe Installation and Backfill (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.78	4.39	0.01	0.09	—	0.09	0.08	—	0.08	—	648	648	0.03	0.01	—	650
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.33	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	76.3	76.3	< 0.005	< 0.005	—	76.6
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.6	12.6	< 0.005	< 0.005	—	12.7
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	87.8	87.8	< 0.005	< 0.005	0.01	89.0
Vendor	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	0.00

Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.02	10.6
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.73	1.73	< 0.005	< 0.005	< 0.005	1.75
Vendor	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	0.00
Hauling	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	0.00

3.107. LOR D HDD (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.45	4.47	6.64	0.01	0.15	—	0.15	0.13	—	0.13	—	1,279	1,279	0.05	0.01	—	1,283
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.45	4.47	6.64	0.01	0.15	—	0.15	0.13	—	0.13	—	1,279	1,279	0.05	0.01	—	1,283
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.48	2.20	< 0.005	0.05	—	0.05	0.04	—	0.04	—	424	424	0.02	< 0.005	—	425
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	70.2	70.2	< 0.005	< 0.005	—	70.4
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	114	114	0.01	< 0.005	0.37	116
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.45	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.01	109
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	36.1	36.1	< 0.005	< 0.005	0.05	36.6
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.97	5.97	< 0.005	< 0.005	0.01	6.06
Vendor	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	0.00
Hauling	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	0.00

3.109. MALS FM Pavement Removal and Excavation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	26.0	25.8	3.42	39.9	0.01	0.54	—	0.54	0.43	—	0.43	—	590	590	0.02	< 0.005	—	592
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.10	3.08	0.41	4.76	< 0.005	0.06	—	0.06	0.05	—	0.05	—	70.5	70.5	< 0.005	< 0.005	—	70.7
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.57	0.56	0.07	0.87	< 0.005	0.01	—	0.01	0.01	—	0.01	—	11.7	11.7	< 0.005	< 0.005	—	11.7

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.51	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	0.01	< 0.005	0.01	113
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.27
Vendor	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	0.00
Hauling	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	0.00

3.111. MALS FM Pavement Removal and Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	26.0	25.8	3.33	39.9	0.01	0.53	—	0.53	0.41	—	0.41	—	590	590	0.02	< 0.005	—	592
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.36	0.35	0.05	0.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	8.08	8.08	< 0.005	< 0.005	—	8.11
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.06	0.06	0.01	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.34	1.34	< 0.005	< 0.005	—	1.34
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.48	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	110	110	0.01	< 0.005	0.01	111
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.52	1.52	< 0.005	< 0.005	< 0.005	1.54
Vendor	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	0.00
Hauling	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.25
Vendor	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	0.00
Hauling	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	0.00

3.113. MALS FM Pipe Installation and Backfill (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	2.01	2.96	< 0.005	0.06	—	0.06	0.06	—	0.06	—	430	430	0.02	< 0.005	—	432
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.22	2.01	2.96	< 0.005	0.06	—	0.06	0.06	—	0.06	—	430	430	0.02	< 0.005	—	432
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.41	2.08	< 0.005	0.04	—	0.04	0.04	—	0.04	—	302	302	0.01	< 0.005	—	303

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.26	0.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	50.0	50.0	< 0.005	< 0.005	—	50.2
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.32	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	69.7	69.7	< 0.005	< 0.005	0.24	70.8
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	65.8	65.8	< 0.005	< 0.005	0.01	66.7
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	46.7	46.7	< 0.005	< 0.005	0.07	47.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.73	7.73	< 0.005	< 0.005	0.01	7.84
Vendor	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	0.00
Hauling	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	0.00

3.115. MALS FM Pipe Installation and Backfill (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.96	2.96	< 0.005	0.05	—	0.05	0.05	—	0.05	—	430	430	0.02	< 0.005	—	432
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.6	23.6	< 0.005	< 0.005	—	23.7
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.90	3.90	< 0.005	< 0.005	—	3.92
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	64.7	64.7	< 0.005	< 0.005	0.01	65.6
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.58	3.58	< 0.005	< 0.005	0.01	3.63
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.59	0.59	< 0.005	< 0.005	< 0.005	0.60
Vendor	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	0.00
Hauling	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	0.00

3.117. MALS FM HDD (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	0.52	5.10	6.63	0.01	0.18	—	0.18	0.16	—	0.16	—	1,307	1,307	0.05	0.01	—	1,312
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.63	0.52	5.10	6.63	0.01	0.18	—	0.18	0.16	—	0.16	—	1,307	1,307	0.05	0.01	—	1,312
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.20	0.17	1.62	2.11	< 0.005	0.06	—	0.06	0.05	—	0.05	—	415	415	0.02	< 0.005	—	417
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.04	0.03	0.30	0.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	68.8	68.8	< 0.005	< 0.005	—	69.0
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.54	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	116	116	0.01	< 0.005	0.41	118
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.48	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	110	110	0.01	< 0.005	0.01	111
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	35.2	35.2	< 0.005	< 0.005	0.06	35.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.82	5.82	< 0.005	< 0.005	0.01	5.91
Vendor	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	0.00
Hauling	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	0.00

3.119. MA SL&R Pavement Removal and Excavation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	25.9	25.7	3.25	39.9	0.01	0.52	—	0.52	0.40	—	0.40	—	590	590	0.02	< 0.005	—	592
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.62	1.61	0.20	2.50	< 0.005	0.03	—	0.03	0.03	—	0.03	—	37.0	37.0	< 0.005	< 0.005	—	37.1
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.30	0.29	0.04	0.46	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	6.12	6.12	< 0.005	< 0.005	—	6.14
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.45	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.01	109
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.82	6.82	< 0.005	< 0.005	0.01	6.91
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.14
Vendor	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	0.00
Hauling	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	0.00

3.121. MA SL&R Pavement Removal and Excavation (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	25.9	25.7	3.20	39.9	0.01	0.51	—	0.51	0.39	—	0.39	—	590	590	0.02	< 0.005	—	592
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.15	0.02	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.46	3.46	< 0.005	< 0.005	—	3.48
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.57	0.57	< 0.005	< 0.005	—	0.58
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.42	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.01	107
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Vendor	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	0.00
Hauling	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	0.00

3.123. MA SL&R Pipe Installation and Backfill (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.85	2.89	< 0.005	0.05	—	0.05	0.05	—	0.05	—	410	410	0.02	< 0.005	—	411
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.85	2.89	< 0.005	0.05	—	0.05	0.05	—	0.05	—	410	410	0.02	< 0.005	—	411
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.04	0.04	0.32	0.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	71.8	71.8	< 0.005	< 0.005	—	72.1
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.9	11.9	< 0.005	< 0.005	—	11.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.3	67.3	< 0.005	< 0.005	0.20	68.3
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	63.6	63.6	< 0.005	< 0.005	0.01	64.4
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.2	11.2	< 0.005	< 0.005	0.02	11.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.89
Vendor	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	0.00

Hauling	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	0.00

3.125. MA SL&R Lining (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.03	3.93	0.01	0.08	—	0.08	0.08	—	0.08	—	583	583	0.02	< 0.005	—	585
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	3.03	3.93	0.01	0.08	—	0.08	0.08	—	0.08	—	583	583	0.02	< 0.005	—	585
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.53	0.69	< 0.005	0.01	—	0.01	0.01	—	0.01	—	102	102	< 0.005	< 0.005	—	103
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.01	0.01	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.9	16.9	< 0.005	< 0.005	—	17.0
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.39	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.8	89.8	< 0.005	< 0.005	0.27	91.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	84.8	84.8	< 0.005	< 0.005	0.01	85.8
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.0	15.0	< 0.005	< 0.005	0.02	15.2
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.48	2.48	< 0.005	< 0.005	< 0.005	2.52
Vendor	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	0.00
Hauling	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	0.00

3.127. MA SL&R Connections (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	3.74	4.35	0.01	0.13	—	0.13	0.12	—	0.12	—	940	940	0.04	0.01	—	944
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.46	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	116	116	< 0.005	< 0.005	—	116
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.3
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.48	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	112	112	< 0.005	< 0.005	0.34	114
Vendor	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	0.00
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.2	13.2	< 0.005	< 0.005	0.02	13.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.18	2.18	< 0.005	< 0.005	< 0.005	2.21
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	372	372	0.07	0.01	—	376

Total	—	—	—	—	—	—	—	—	—	—	—	—	372	372	0.07	0.01	—	376
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	372	372	0.07	0.01	—	376
Total	—	—	—	—	—	—	—	—	—	—	—	—	372	372	0.07	0.01	—	376
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	61.6	61.6	0.01	< 0.005	—	62.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	61.6	61.6	0.01	< 0.005	—	62.3

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	288	288	0.01	< 0.005	0.00	288
Total	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	288	288	0.01	< 0.005	0.00	288
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	288	288	0.01	< 0.005	0.00	288
Total	0.62	0.56	1.57	1.43	< 0.005	0.08	0.00	0.08	0.08	0.00	0.08	0.00	288	288	0.01	< 0.005	0.00	288
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	1.57	1.57	< 0.005	< 0.005	0.00	1.57

Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	1.57	1.57	< 0.005	< 0.005	0.00	1.57

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
OMG FM Dewatering	Site Preparation	11/1/2025	3/22/2026	5.00	100	—
LOR A&B Dewatering	Site Preparation	11/1/2025	3/22/2026	5.00	100	—
LOR C1 Dewatering	Site Preparation	6/16/2027	6/15/2028	5.00	262	—
LOR C2 Dewatering	Site Preparation	2/1/2028	4/19/2028	5.00	57.0	—
LOR D Dewatering	Site Preparation	8/1/2026	10/15/2026	5.00	54.0	—
MALS FM Dewatering	Site Preparation	11/1/2025	3/22/2026	5.00	100	—
MA SL&R Dewatering	Site Preparation	11/15/2027	1/7/2028	5.00	40.0	—
OMG LS Grading	Grading	9/1/2025	11/15/2025	5.00	55.0	—
OMG LS Construction	Building Construction	11/16/2025	6/15/2027	5.00	412	—
OMG FM Pressure Test and Valve Installation	Building Construction	3/8/2027	3/30/2027	5.00	17.0	—
LOR A&B Pressure Test and Valve Installation	Building Construction	3/8/2027	3/30/2027	5.00	17.0	—
LOR C1 Pressure Test and Valve Installation	Building Construction	4/28/2028	5/11/2028	5.00	10.0	—
LOR C2 Pressure Test and Valve Installation	Building Construction	6/22/2029	7/5/2029	5.00	10.0	—
LOR D Pressure Test and Valve Installation	Building Construction	12/30/2027	1/12/2028	5.00	10.0	—
MALS FM Pressure Test	Building Construction	3/8/2027	3/30/2027	5.00	17.0	—
MA SL&R Pipe Testing	Building Construction	7/30/2028	8/7/2028	5.00	6.00	—
OMG FM Paving	Paving	4/1/2027	6/15/2027	5.00	54.0	—
LOR A&B Paving	Paving	4/1/2027	6/15/2027	5.00	54.0	—
LOR C1 Paving	Paving	5/12/2028	6/8/2028	5.00	20.0	—
LOR C2 Paving	Paving	7/6/2029	8/2/2029	5.00	20.0	—
LOR D Paving	Paving	1/16/2028	2/13/2028	5.00	20.0	—
MALS FM Paving	Paving	4/1/2027	6/1/2027	5.00	44.0	—
MA SL&R Paving	Paving	8/25/2028	9/7/2028	5.00	10.0	—
OMG FM Pavement Removal and Excavation	Trenching	11/1/2025	1/6/2026	5.00	47.0	—

OMG FM Pipeline Installation and Backfill	Trenching	1/7/2026	1/28/2027	5.00	277	—
OMG FM Pit and HDD	Trenching	1/28/2026	7/8/2026	5.00	116	—
OMG FM Connection to LS	Trenching	1/28/2027	3/7/2027	5.00	27.0	—
LOR A&B Pavement Removal and Excavation	Trenching	11/1/2025	1/7/2026	5.00	48.0	—
LOR A&B Pipeline Installation and Backfill	Trenching	1/7/2026	1/28/2027	5.00	277	—
LOR A&B Pit and HDD	Trenching	1/28/2026	7/8/2026	5.00	116	—
LOR C1 Pavement Removal and Excavation	Trenching	6/16/2027	6/15/2028	5.00	262	—
LOR C1 Pipe Installation and Backfill	Trenching	6/16/2027	6/15/2028	5.00	262	—
LOR C1 HDD	Trenching	2/1/2028	4/24/2028	5.00	60.0	—
LOR C2 Pavement Removal and Excavation	Trenching	3/1/2028	10/15/2028	5.00	163	—
LOR C2 HDD	Trenching	10/16/2028	2/5/2029	5.00	81.0	—
LOR C2 Pipe Installation and Backfill	Trenching	4/25/2028	7/5/2028	5.00	52.0	—
LOR D Pavement Removal and Excavation	Trenching	9/6/2026	11/17/2026	5.00	52.0	—
LOR D Pipe Installation and Backfill	Trenching	10/1/2026	11/30/2026	5.00	43.0	—
LOR D HDD	Trenching	4/16/2027	10/1/2027	5.00	121	—
MALS FM Pavement Removal and Excavation	Trenching	11/1/2025	1/7/2026	5.00	48.0	—
MALS FM Pipe Installation and Backfill	Trenching	1/7/2026	1/28/2027	5.00	277	—
MALS FM HDD	Trenching	1/28/2026	7/8/2026	5.00	116	—
MA SL&R Pavement Removal and Excavation	Trenching	11/30/2027	1/3/2028	5.00	25.0	—
MA SL&R Pipe Installation and Backfill	Trenching	1/4/2028	4/1/2028	5.00	64.0	—

MA SL&R Lining	Trenching	1/4/2028	4/1/2028	5.00	64.0	—
MA SL&R Connections	Trenching	5/15/2028	7/15/2028	5.00	45.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
OMG FM Dewatering	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
OMG FM Dewatering	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
OMG FM Dewatering	Bore/Drill Rigs	Diesel	Average	1.00	6.00	83.0	0.50
LOR A&B Dewatering	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
LOR A&B Dewatering	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
LOR A&B Dewatering	Bore/Drill Rigs	Diesel	Average	1.00	6.00	83.0	0.50
LOR A&B Dewatering	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
LOR C1 Dewatering	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
LOR C1 Dewatering	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
LOR C1 Dewatering	Bore/Drill Rigs	Diesel	Average	1.00	6.00	83.0	0.50
LOR C1 Dewatering	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
LOR C2 Dewatering	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
LOR C2 Dewatering	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
LOR C2 Dewatering	Bore/Drill Rigs	Diesel	Average	1.00	6.00	83.0	0.50
LOR C2 Dewatering	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
LOR D Dewatering	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
LOR D Dewatering	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
LOR D Dewatering	Bore/Drill Rigs	Diesel	Average	1.00	6.00	83.0	0.50

LOR D Dewatering	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
MALS FM Dewatering	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
MALS FM Dewatering	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
MALS FM Dewatering	Bore/Drill Rigs	Diesel	Average	1.00	6.00	83.0	0.50
MA SL&R Dewatering	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
MA SL&R Dewatering	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
MA SL&R Dewatering	Bore/Drill Rigs	Diesel	Average	1.00	6.00	83.0	0.50
OMG LS Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
OMG LS Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
OMG LS Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
OMG LS Grading	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
OMG LS Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
OMG LS Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
OMG LS Construction	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
OMG LS Construction	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
OMG LS Construction	Plate Compactors	Diesel	Average	1.00	4.00	8.00	0.43
OMG LS Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
OMG LS Construction	Rollers	Diesel	Average	1.00	6.00	36.0	0.38
OMG LS Construction	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
OMG FM Pressure Test and Valve Installation	Cranes	Diesel	Average	1.00	4.00	367	0.29
OMG FM Pressure Test and Valve Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
OMG FM Pressure Test and Valve Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

OMG FM Pressure Test and Valve Installation	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
LOR A&B Pressure Test and Valve Installation	Cranes	Diesel	Average	1.00	4.00	367	0.29
LOR A&B Pressure Test and Valve Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
LOR A&B Pressure Test and Valve Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
LOR A&B Pressure Test and Valve Installation	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
LOR C1 Pressure Test and Valve Installation	Cranes	Diesel	Average	1.00	4.00	367	0.29
LOR C1 Pressure Test and Valve Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
LOR C1 Pressure Test and Valve Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
LOR C1 Pressure Test and Valve Installation	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
LOR C2 Pressure Test and Valve Installation	Cranes	Diesel	Average	1.00	4.00	367	0.29
LOR C2 Pressure Test and Valve Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
LOR C2 Pressure Test and Valve Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
LOR C2 Pressure Test and Valve Installation	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
LOR D Pressure Test and Valve Installation	Cranes	Diesel	Average	1.00	4.00	367	0.29
LOR D Pressure Test and Valve Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

LOR D Pressure Test and Valve Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
LOR D Pressure Test and Valve Installation	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
MALS FM Pressure Test	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
MALS FM Pressure Test	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
MALS FM Pressure Test	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
MA SL&R Pipe Testing	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
MA SL&R Pipe Testing	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
MA SL&R Pipe Testing	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
OMG FM Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
OMG FM Paving	Rollers	Diesel	Average	2.00	7.00	36.0	0.38
OMG FM Paving	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
OMG FM Paving	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
LOR A&B Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
LOR A&B Paving	Rollers	Diesel	Average	5.00	7.00	36.0	0.38
LOR A&B Paving	Skid Steer Loaders	Diesel	Average	2.00	6.00	71.0	0.37
LOR A&B Paving	Sweepers/Scrubbers	Diesel	Average	2.00	4.00	36.0	0.46
LOR C1 Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
LOR C1 Paving	Rollers	Diesel	Average	5.00	7.00	36.0	0.38
LOR C1 Paving	Skid Steer Loaders	Diesel	Average	2.00	6.00	71.0	0.37
LOR C1 Paving	Sweepers/Scrubbers	Diesel	Average	2.00	4.00	36.0	0.46
LOR C2 Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
LOR C2 Paving	Rollers	Diesel	Average	5.00	7.00	36.0	0.38
LOR C2 Paving	Skid Steer Loaders	Diesel	Average	2.00	6.00	71.0	0.37

LOR C2 Paving	Sweepers/Scrubbers	Diesel	Average	2.00	4.00	36.0	0.46
LOR D Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
LOR D Paving	Rollers	Diesel	Average	5.00	7.00	36.0	0.38
LOR D Paving	Skid Steer Loaders	Diesel	Average	2.00	6.00	71.0	0.37
LOR D Paving	Sweepers/Scrubbers	Diesel	Average	2.00	4.00	36.0	0.46
MALS FM Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
MALS FM Paving	Rollers	Diesel	Average	2.00	7.00	36.0	0.38
MALS FM Paving	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
MALS FM Paving	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
MA SL&R Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
MA SL&R Paving	Rollers	Diesel	Average	2.00	7.00	36.0	0.38
MA SL&R Paving	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
MA SL&R Paving	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
OMG FM Pavement Removal and Excavation	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73
OMG FM Pavement Removal and Excavation	Excavators	Diesel	Average	3.00	6.00	36.0	0.38
OMG FM Pavement Removal and Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
OMG FM Pipeline Installation and Backfill	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
OMG FM Pipeline Installation and Backfill	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
OMG FM Pit and HDD	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
OMG FM Pit and HDD	Cranes	Diesel	Average	1.00	4.00	367	0.29
OMG FM Pit and HDD	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
OMG FM Pit and HDD	Excavators	Diesel	Average	1.00	6.00	36.0	0.38

OMG FM Pit and HDD	Tractors/Loaders/Back	Diesel	Average	1.00	6.00	84.0	0.37
OMG FM Connection to LS	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
OMG FM Connection to LS	Cranes	Diesel	Average	1.00	4.00	367	0.29
OMG FM Connection to LS	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
OMG FM Connection to LS	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
OMG FM Connection to LS	Plate Compactors	Diesel	Average	1.00	4.00	8.00	0.43
LOR A&B Pavement Removal and Excavation	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73
LOR A&B Pavement Removal and Excavation	Excavators	Diesel	Average	3.00	6.00	36.0	0.38
LOR A&B Pavement Removal and Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
LOR A&B Pavement Removal and Excavation	Crushing/Proc. Equipment	Gasoline	Average	1.00	6.00	12.0	0.85
LOR A&B Pavement Removal and Excavation	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
LOR A&B Pipeline Installation and Backfill	Excavators	Diesel	Average	2.00	6.00	36.0	0.38
LOR A&B Pipeline Installation and Backfill	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
LOR A&B Pit and HDD	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
LOR A&B Pit and HDD	Cranes	Diesel	Average	1.00	4.00	367	0.29

LOR A&B Pit and HDD	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
LOR A&B Pit and HDD	Forklifts	Diesel	Average	1.00	4.00	82.0	0.20
LOR A&B Pit and HDD	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
LOR C1 Pavement Removal and Excavation	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73
LOR C1 Pavement Removal and Excavation	Excavators	Diesel	Average	3.00	6.00	36.0	0.38
LOR C1 Pavement Removal and Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
LOR C1 Pavement Removal and Excavation	Crushing/Proc. Equipment	Gasoline	Average	1.00	6.00	12.0	0.85
LOR C1 Pavement Removal and Excavation	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
LOR C1 Pipe Installation and Backfill	Excavators	Diesel	Average	2.00	6.00	36.0	0.38
LOR C1 Pipe Installation and Backfill	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
LOR C1 HDD	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
LOR C1 HDD	Cranes	Diesel	Average	1.00	4.00	367	0.29
LOR C1 HDD	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
LOR C1 HDD	Forklifts	Diesel	Average	1.00	4.00	82.0	0.20
LOR C1 HDD	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
LOR C2 Pavement Removal and Excavation	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73

LOR C2 Pavement Removal and Excavation	Excavators	Diesel	Average	3.00	6.00	36.0	0.38
LOR C2 Pavement Removal and Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
LOR C2 Pavement Removal and Excavation	Crushing/Proc. Equipment	Gasoline	Average	1.00	6.00	12.0	0.85
LOR C2 Pavement Removal and Excavation	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
LOR C2 HDD	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
LOR C2 HDD	Cranes	Diesel	Average	1.00	4.00	367	0.29
LOR C2 HDD	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
LOR C2 HDD	Forklifts	Diesel	Average	1.00	4.00	82.0	0.20
LOR C2 HDD	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
LOR C2 Pipe Installation and Backfill	Excavators	Diesel	Average	2.00	6.00	36.0	0.38
LOR C2 Pipe Installation and Backfill	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
LOR D Pavement Removal and Excavation	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73
LOR D Pavement Removal and Excavation	Excavators	Diesel	Average	3.00	6.00	36.0	0.38
LOR D Pavement Removal and Excavation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
LOR D Pavement Removal and Excavation	Crushing/Proc. Equipment	Gasoline	Average	1.00	6.00	12.0	0.85

LOR D Pavement Removal and Excavation	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
LOR D Pipe Installation and Backfill	Excavators	Diesel	Average	2.00	6.00	36.0	0.38
LOR D Pipe Installation and Backfill	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
LOR D HDD	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
LOR D HDD	Cranes	Diesel	Average	1.00	4.00	367	0.29
LOR D HDD	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
LOR D HDD	Forklifts	Diesel	Average	1.00	4.00	82.0	0.20
LOR D HDD	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
MALS FM Pavement Removal and Excavation	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73
MALS FM Pavement Removal and Excavation	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
MALS FM Pavement Removal and Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
MALS FM Pavement Removal and Excavation	Crushing/Proc. Equipment	Gasoline	Average	1.00	6.00	12.0	0.85
MALS FM Pavement Removal and Excavation	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
MALS FM Pipe Installation and Backfill	Excavators	Diesel	Average	2.00	6.00	36.0	0.38
MALS FM Pipe Installation and Backfill	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37

MALS FM HDD	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
MALS FM HDD	Cranes	Diesel	Average	1.00	4.00	367	0.29
MALS FM HDD	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
MALS FM HDD	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
MALS FM HDD	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
MA SL&R Pavement Removal and Excavation	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73
MA SL&R Pavement Removal and Excavation	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
MA SL&R Pavement Removal and Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
MA SL&R Pavement Removal and Excavation	Crushing/Proc. Equipment	Gasoline	Average	1.00	6.00	12.0	0.85
MA SL&R Pavement Removal and Excavation	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
MA SL&R Pipe Installation and Backfill	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
MA SL&R Pipe Installation and Backfill	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
MA SL&R Pipe Installation and Backfill	Sweepers/Scrubbers	Diesel	Average	1.00	4.00	36.0	0.46
MA SL&R Lining	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
MA SL&R Lining	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
MA SL&R Lining	Welders	Diesel	Average	1.00	6.00	46.0	0.45
MA SL&R Lining	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37

MA SL&R Connections	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
MA SL&R Connections	Cranes	Diesel	Average	1.00	4.00	367	0.29
MA SL&R Connections	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
MA SL&R Connections	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
MA SL&R Connections	Plate Compactors	Diesel	Average	1.00	4.00	8.00	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
OMG LS Construction	—	—	—	—
OMG LS Construction	Worker	< 0.005	12.0	LDA,LDT1,LDT2
OMG LS Construction	Vendor	< 0.005	7.63	HHDT,MHDT
OMG LS Construction	Hauling	0.00	20.0	HHDT
OMG LS Construction	Onsite truck	—	—	HHDT
OMG FM Dewatering	—	—	—	—
OMG FM Dewatering	Worker	7.50	12.0	LDA,LDT1,LDT2
OMG FM Dewatering	Vendor	—	7.63	HHDT,MHDT
OMG FM Dewatering	Hauling	0.00	20.0	HHDT
OMG FM Dewatering	Onsite truck	—	—	HHDT
LOR A&B Dewatering	—	—	—	—
LOR A&B Dewatering	Worker	10.0	12.0	LDA,LDT1,LDT2
LOR A&B Dewatering	Vendor	—	7.63	HHDT,MHDT
LOR A&B Dewatering	Hauling	0.00	20.0	HHDT
LOR A&B Dewatering	Onsite truck	—	—	HHDT

LOR C1 Dewatering	—	—	—	—
LOR C1 Dewatering	Worker	10.0	12.0	LDA,LDT1,LDT2
LOR C1 Dewatering	Vendor	—	7.63	HHDT,MHDT
LOR C1 Dewatering	Hauling	0.00	20.0	HHDT
LOR C1 Dewatering	Onsite truck	—	—	HHDT
LOR C2 Dewatering	—	—	—	—
LOR C2 Dewatering	Worker	10.0	12.0	LDA,LDT1,LDT2
LOR C2 Dewatering	Vendor	—	7.63	HHDT,MHDT
LOR C2 Dewatering	Hauling	0.00	20.0	HHDT
LOR C2 Dewatering	Onsite truck	—	—	HHDT
LOR D Dewatering	—	—	—	—
LOR D Dewatering	Worker	10.0	12.0	LDA,LDT1,LDT2
LOR D Dewatering	Vendor	—	7.63	HHDT,MHDT
LOR D Dewatering	Hauling	0.00	20.0	HHDT
LOR D Dewatering	Onsite truck	—	—	HHDT
MALS FM Dewatering	—	—	—	—
MALS FM Dewatering	Worker	7.50	12.0	LDA,LDT1,LDT2
MALS FM Dewatering	Vendor	—	7.63	HHDT,MHDT
MALS FM Dewatering	Hauling	0.00	20.0	HHDT
MALS FM Dewatering	Onsite truck	—	—	HHDT
MA SL&R Dewatering	—	—	—	—
MA SL&R Dewatering	Worker	7.50	12.0	LDA,LDT1,LDT2
MA SL&R Dewatering	Vendor	—	7.63	HHDT,MHDT
MA SL&R Dewatering	Hauling	0.00	20.0	HHDT
MA SL&R Dewatering	Onsite truck	—	—	HHDT
OMG LS Grading	—	—	—	—
OMG LS Grading	Worker	10.0	12.0	LDA,LDT1,LDT2
OMG LS Grading	Vendor	—	7.63	HHDT,MHDT

OMG LS Grading	Hauling	0.00	20.0	HHDT
OMG LS Grading	Onsite truck	—	—	HHDT
OMG FM Pressure Test and Valve Installation	—	—	—	—
OMG FM Pressure Test and Valve Installation	Worker	< 0.005	12.0	LDA,LDT1,LDT2
OMG FM Pressure Test and Valve Installation	Vendor	< 0.005	7.63	HHDT,MHDT
OMG FM Pressure Test and Valve Installation	Hauling	0.00	20.0	HHDT
OMG FM Pressure Test and Valve Installation	Onsite truck	—	—	HHDT
LOR A&B Pressure Test and Valve Installation	—	—	—	—
LOR A&B Pressure Test and Valve Installation	Worker	< 0.005	12.0	LDA,LDT1,LDT2
LOR A&B Pressure Test and Valve Installation	Vendor	< 0.005	7.63	HHDT,MHDT
LOR A&B Pressure Test and Valve Installation	Hauling	0.00	20.0	HHDT
LOR A&B Pressure Test and Valve Installation	Onsite truck	—	—	HHDT
LOR C1 Pressure Test and Valve Installation	—	—	—	—
LOR C1 Pressure Test and Valve Installation	Worker	< 0.005	12.0	LDA,LDT1,LDT2
LOR C1 Pressure Test and Valve Installation	Vendor	< 0.005	7.63	HHDT,MHDT
LOR C1 Pressure Test and Valve Installation	Hauling	0.00	20.0	HHDT
LOR C1 Pressure Test and Valve Installation	Onsite truck	—	—	HHDT
LOR C2 Pressure Test and Valve Installation	—	—	—	—

LOR C2 Pressure Test and Valve Installation	Worker	< 0.005	12.0	LDA,LDT1,LDT2
LOR C2 Pressure Test and Valve Installation	Vendor	< 0.005	7.63	HHDT,MHDT
LOR C2 Pressure Test and Valve Installation	Hauling	0.00	20.0	HHDT
LOR C2 Pressure Test and Valve Installation	Onsite truck	—	—	HHDT
LOR D Pressure Test and Valve Installation	—	—	—	—
LOR D Pressure Test and Valve Installation	Worker	< 0.005	12.0	LDA,LDT1,LDT2
LOR D Pressure Test and Valve Installation	Vendor	< 0.005	7.63	HHDT,MHDT
LOR D Pressure Test and Valve Installation	Hauling	0.00	20.0	HHDT
LOR D Pressure Test and Valve Installation	Onsite truck	—	—	HHDT
MALS FM Pressure Test	—	—	—	—
MALS FM Pressure Test	Worker	< 0.005	12.0	LDA,LDT1,LDT2
MALS FM Pressure Test	Vendor	< 0.005	7.63	HHDT,MHDT
MALS FM Pressure Test	Hauling	0.00	20.0	HHDT
MALS FM Pressure Test	Onsite truck	—	—	HHDT
MA SL&R Pipe Testing	—	—	—	—
MA SL&R Pipe Testing	Worker	< 0.005	12.0	LDA,LDT1,LDT2
MA SL&R Pipe Testing	Vendor	< 0.005	7.63	HHDT,MHDT
MA SL&R Pipe Testing	Hauling	0.00	20.0	HHDT
MA SL&R Pipe Testing	Onsite truck	—	—	HHDT
OMG FM Paving	—	—	—	—
OMG FM Paving	Worker	12.5	12.0	LDA,LDT1,LDT2
OMG FM Paving	Vendor	—	7.63	HHDT,MHDT
OMG FM Paving	Hauling	0.00	20.0	HHDT

OMG FM Paving	Onsite truck	—	—	HHDT
LOR A&B Paving	—	—	—	—
LOR A&B Paving	Worker	25.0	12.0	LDA,LDT1,LDT2
LOR A&B Paving	Vendor	—	7.63	HHDT,MHDT
LOR A&B Paving	Hauling	0.00	20.0	HHDT
LOR A&B Paving	Onsite truck	—	—	HHDT
LOR C1 Paving	—	—	—	—
LOR C1 Paving	Worker	25.0	12.0	LDA,LDT1,LDT2
LOR C1 Paving	Vendor	—	7.63	HHDT,MHDT
LOR C1 Paving	Hauling	0.00	20.0	HHDT
LOR C1 Paving	Onsite truck	—	—	HHDT
LOR C2 Paving	—	—	—	—
LOR C2 Paving	Worker	25.0	12.0	LDA,LDT1,LDT2
LOR C2 Paving	Vendor	—	7.63	HHDT,MHDT
LOR C2 Paving	Hauling	0.00	20.0	HHDT
LOR C2 Paving	Onsite truck	—	—	HHDT
LOR D Paving	—	—	—	—
LOR D Paving	Worker	25.0	12.0	LDA,LDT1,LDT2
LOR D Paving	Vendor	—	7.63	HHDT,MHDT
LOR D Paving	Hauling	0.00	20.0	HHDT
LOR D Paving	Onsite truck	—	—	HHDT
MALS FM Paving	—	—	—	—
MALS FM Paving	Worker	12.5	12.0	LDA,LDT1,LDT2
MALS FM Paving	Vendor	—	7.63	HHDT,MHDT
MALS FM Paving	Hauling	0.00	20.0	HHDT
MALS FM Paving	Onsite truck	—	—	HHDT
MA SL&R Paving	—	—	—	—
MA SL&R Paving	Worker	12.5	12.0	LDA,LDT1,LDT2

MA SL&R Paving	Vendor	—	7.63	HHDT,MHDT
MA SL&R Paving	Hauling	0.00	20.0	HHDT
MA SL&R Paving	Onsite truck	—	—	HHDT
OMG FM Pavement Removal and Excavation	—	—	—	—
OMG FM Pavement Removal and Excavation	Worker	12.5	12.0	LDA,LDT1,LDT2
OMG FM Pavement Removal and Excavation	Vendor	—	7.63	HHDT,MHDT
OMG FM Pavement Removal and Excavation	Hauling	0.00	20.0	HHDT
OMG FM Pavement Removal and Excavation	Onsite truck	—	—	HHDT
OMG FM Pipeline Installation and Backfill	—	—	—	—
OMG FM Pipeline Installation and Backfill	Worker	7.50	12.0	LDA,LDT1,LDT2
OMG FM Pipeline Installation and Backfill	Vendor	—	7.63	HHDT,MHDT
OMG FM Pipeline Installation and Backfill	Hauling	0.00	20.0	HHDT
OMG FM Pipeline Installation and Backfill	Onsite truck	—	—	HHDT
OMG FM Pit and HDD	—	—	—	—
OMG FM Pit and HDD	Worker	12.5	12.0	LDA,LDT1,LDT2
OMG FM Pit and HDD	Vendor	—	7.63	HHDT,MHDT
OMG FM Pit and HDD	Hauling	0.00	20.0	HHDT
OMG FM Pit and HDD	Onsite truck	—	—	HHDT
OMG FM Connection to LS	—	—	—	—
OMG FM Connection to LS	Worker	12.5	12.0	LDA,LDT1,LDT2
OMG FM Connection to LS	Vendor	—	7.63	HHDT,MHDT
OMG FM Connection to LS	Hauling	0.00	20.0	HHDT

OMG FM Connection to LS	Onsite truck	—	—	HHDT
LOR A&B Pavement Removal and Excavation	—	—	—	—
LOR A&B Pavement Removal and Excavation	Worker	20.0	12.0	LDA,LDT1,LDT2
LOR A&B Pavement Removal and Excavation	Vendor	—	7.63	HHDT,MHDT
LOR A&B Pavement Removal and Excavation	Hauling	0.00	20.0	HHDT
LOR A&B Pavement Removal and Excavation	Onsite truck	—	—	HHDT
LOR A&B Pipeline Installation and Backfill	—	—	—	—
LOR A&B Pipeline Installation and Backfill	Worker	10.0	12.0	LDA,LDT1,LDT2
LOR A&B Pipeline Installation and Backfill	Vendor	—	7.63	HHDT,MHDT
LOR A&B Pipeline Installation and Backfill	Hauling	0.00	20.0	HHDT
LOR A&B Pipeline Installation and Backfill	Onsite truck	—	—	HHDT
LOR A&B Pit and HDD	—	—	—	—
LOR A&B Pit and HDD	Worker	12.5	12.0	LDA,LDT1,LDT2
LOR A&B Pit and HDD	Vendor	—	7.63	HHDT,MHDT
LOR A&B Pit and HDD	Hauling	0.00	20.0	HHDT
LOR A&B Pit and HDD	Onsite truck	—	—	HHDT
LOR C1 Pavement Removal and Excavation	—	—	—	—
LOR C1 Pavement Removal and Excavation	Worker	20.0	12.0	LDA,LDT1,LDT2
LOR C1 Pavement Removal and Excavation	Vendor	—	7.63	HHDT,MHDT
LOR C1 Pavement Removal and Excavation	Hauling	0.00	20.0	HHDT

LOR C1 Pavement Removal and Excavation	Onsite truck	—	—	HHDT
LOR C1 Pipe Installation and Backfill	—	—	—	—
LOR C1 Pipe Installation and Backfill	Worker	10.0	12.0	LDA,LDT1,LDT2
LOR C1 Pipe Installation and Backfill	Vendor	—	7.63	HHDT,MHDT
LOR C1 Pipe Installation and Backfill	Hauling	0.00	20.0	HHDT
LOR C1 Pipe Installation and Backfill	Onsite truck	—	—	HHDT
LOR C1 HDD	—	—	—	—
LOR C1 HDD	Worker	12.5	12.0	LDA,LDT1,LDT2
LOR C1 HDD	Vendor	—	7.63	HHDT,MHDT
LOR C1 HDD	Hauling	0.00	20.0	HHDT
LOR C1 HDD	Onsite truck	—	—	HHDT
LOR C2 Pavement Removal and Excavation	—	—	—	—
LOR C2 Pavement Removal and Excavation	Worker	20.0	12.0	LDA,LDT1,LDT2
LOR C2 Pavement Removal and Excavation	Vendor	—	7.63	HHDT,MHDT
LOR C2 Pavement Removal and Excavation	Hauling	0.00	20.0	HHDT
LOR C2 Pavement Removal and Excavation	Onsite truck	—	—	HHDT
LOR C2 HDD	—	—	—	—
LOR C2 HDD	Worker	12.5	12.0	LDA,LDT1,LDT2
LOR C2 HDD	Vendor	—	7.63	HHDT,MHDT
LOR C2 HDD	Hauling	0.00	20.0	HHDT
LOR C2 HDD	Onsite truck	—	—	HHDT
LOR C2 Pipe Installation and Backfill	—	—	—	—
LOR C2 Pipe Installation and Backfill	Worker	10.0	12.0	LDA,LDT1,LDT2
LOR C2 Pipe Installation and Backfill	Vendor	—	7.63	HHDT,MHDT
LOR C2 Pipe Installation and Backfill	Hauling	0.00	20.0	HHDT

LOR C2 Pipe Installation and Backfill	Onsite truck	—	—	HHDT
LOR D Pavement Removal and Excavation	—	—	—	—
LOR D Pavement Removal and Excavation	Worker	20.0	12.0	LDA,LDT1,LDT2
LOR D Pavement Removal and Excavation	Vendor	—	7.63	HHDT,MHDT
LOR D Pavement Removal and Excavation	Hauling	0.00	20.0	HHDT
LOR D Pavement Removal and Excavation	Onsite truck	—	—	HHDT
LOR D Pipe Installation and Backfill	—	—	—	—
LOR D Pipe Installation and Backfill	Worker	10.0	12.0	LDA,LDT1,LDT2
LOR D Pipe Installation and Backfill	Vendor	—	7.63	HHDT,MHDT
LOR D Pipe Installation and Backfill	Hauling	0.00	20.0	HHDT
LOR D Pipe Installation and Backfill	Onsite truck	—	—	HHDT
LOR D HDD	—	—	—	—
LOR D HDD	Worker	12.5	12.0	LDA,LDT1,LDT2
LOR D HDD	Vendor	—	7.63	HHDT,MHDT
LOR D HDD	Hauling	0.00	20.0	HHDT
LOR D HDD	Onsite truck	—	—	HHDT
MALS FM Pavement Removal and Excavation	—	—	—	—
MALS FM Pavement Removal and Excavation	Worker	12.5	12.0	LDA,LDT1,LDT2
MALS FM Pavement Removal and Excavation	Vendor	—	7.63	HHDT,MHDT
MALS FM Pavement Removal and Excavation	Hauling	0.00	20.0	HHDT
MALS FM Pavement Removal and Excavation	Onsite truck	—	—	HHDT

MALS FM Pipe Installation and Backfill	—	—	—	—
MALS FM Pipe Installation and Backfill	Worker	7.50	12.0	LDA,LDT1,LDT2
MALS FM Pipe Installation and Backfill	Vendor	—	7.63	HHDT,MHDT
MALS FM Pipe Installation and Backfill	Hauling	0.00	20.0	HHDT
MALS FM Pipe Installation and Backfill	Onsite truck	—	—	HHDT
MALS FM HDD	—	—	—	—
MALS FM HDD	Worker	12.5	12.0	LDA,LDT1,LDT2
MALS FM HDD	Vendor	—	7.63	HHDT,MHDT
MALS FM HDD	Hauling	0.00	20.0	HHDT
MALS FM HDD	Onsite truck	—	—	HHDT
MA SL&R Pavement Removal and Excavation	—	—	—	—
MA SL&R Pavement Removal and Excavation	Worker	12.5	12.0	LDA,LDT1,LDT2
MA SL&R Pavement Removal and Excavation	Vendor	—	7.63	HHDT,MHDT
MA SL&R Pavement Removal and Excavation	Hauling	0.00	20.0	HHDT
MA SL&R Pavement Removal and Excavation	Onsite truck	—	—	HHDT
MA SL&R Pipe Installation and Backfill	—	—	—	—
MA SL&R Pipe Installation and Backfill	Worker	7.50	12.0	LDA,LDT1,LDT2
MA SL&R Pipe Installation and Backfill	Vendor	—	7.63	HHDT,MHDT
MA SL&R Pipe Installation and Backfill	Hauling	0.00	20.0	HHDT

MA SL&R Pipe Installation and Backfill	Onsite truck	—	—	HHDT
MA SL&R Lining	—	—	—	—
MA SL&R Lining	Worker	10.0	12.0	LDA,LDT1,LDT2
MA SL&R Lining	Vendor	—	7.63	HHDT,MHDT
MA SL&R Lining	Hauling	0.00	20.0	HHDT
MA SL&R Lining	Onsite truck	—	—	HHDT
MA SL&R Connections	—	—	—	—
MA SL&R Connections	Worker	12.5	12.0	LDA,LDT1,LDT2
MA SL&R Connections	Vendor	—	7.63	HHDT,MHDT
MA SL&R Connections	Hauling	0.00	20.0	HHDT
MA SL&R Connections	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
OMG FM Dewatering	—	—	0.00	0.00	—
LOR A&B Dewatering	—	—	0.00	0.00	—
LOR C1 Dewatering	—	—	0.00	0.00	—

LOR C2 Dewatering	—	—	0.00	0.00	—
LOR D Dewatering	—	—	0.00	0.00	—
MALS FM Dewatering	—	—	0.00	0.00	—
MA SL&R Dewatering	—	—	0.00	0.00	—
OMG LS Grading	—	—	41.3	0.00	—
OMG FM Paving	0.00	0.00	0.00	0.00	0.00
LOR A&B Paving	0.00	0.00	0.00	0.00	0.00
LOR C1 Paving	0.00	0.00	0.00	0.00	0.00
LOR C2 Paving	0.00	0.00	0.00	0.00	0.00
LOR D Paving	0.00	0.00	0.00	0.00	0.00
MALS FM Paving	0.00	0.00	0.00	0.00	0.00
MA SL&R Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	540	0.03	< 0.005
2026	0.00	45.1	0.03	< 0.005
2027	0.00	45.1	0.03	< 0.005

2028	0.00	45.1	0.03	< 0.005
2029	0.00	45.1	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1.50	0.50	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	800,000	170	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	0.50	6.00	685	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	8.18	annual days of extreme heat
Extreme Precipitation	3.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	18.8	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	37.6
AQ-PM	39.0

AQ-DPM	7.43
Drinking Water	70.4
Lead Risk Housing	17.1
Pesticides	43.1
Toxic Releases	15.8
Traffic	27.8
Effect Indicators	—
CleanUp Sites	68.9
Groundwater	14.3
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	66.7
Solid Waste	0.00
Sensitive Population	—
Asthma	10.8
Cardio-vascular	9.00
Low Birth Weights	67.9
Socioeconomic Factor Indicators	—
Education	20.3
Housing	28.2
Linguistic	42.8
Poverty	2.91
Unemployment	6.30

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	81.54754267

Employed	27.11407674
Median HI	73.68150905
Education	—
Bachelor's or higher	63.82651097
High school enrollment	100
Preschool enrollment	21.28833569
Transportation	—
Auto Access	87.47593995
Active commuting	35.10843064
Social	—
2-parent households	55.06223534
Voting	72.84742718
Neighborhood	—
Alcohol availability	76.37623508
Park access	81.35506224
Retail density	9.547029385
Supermarket access	15.71923521
Tree canopy	32.56768895
Housing	—
Homeownership	70.46066983
Housing habitability	88.74631079
Low-inc homeowner severe housing cost burden	62.7229565
Low-inc renter severe housing cost burden	85.57679969
Uncrowded housing	78.31387142
Health Outcomes	—
Insured adults	46.81124086
Arthritis	32.9
Asthma ER Admissions	78.8

High Blood Pressure	61.0
Cancer (excluding skin)	21.2
Asthma	69.3
Coronary Heart Disease	43.7
Chronic Obstructive Pulmonary Disease	56.7
Diagnosed Diabetes	61.5
Life Expectancy at Birth	94.3
Cognitively Disabled	64.4
Physically Disabled	87.9
Heart Attack ER Admissions	85.5
Mental Health Not Good	67.2
Chronic Kidney Disease	55.3
Obesity	64.2
Pedestrian Injuries	19.6
Physical Health Not Good	70.2
Stroke	51.7
Health Risk Behaviors	—
Binge Drinking	21.6
Current Smoker	69.0
No Leisure Time for Physical Activity	66.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	11.1
Elderly	20.7
English Speaking	68.4
Foreign-born	24.8
Outdoor Workers	71.6

Climate Change Adaptive Capacity	—
Impervious Surface Cover	61.4
Traffic Density	32.0
Traffic Access	57.9
Other Indices	—
Hardship	35.3
Other Decision Support	—
2016 Voting	67.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	13.0
Healthy Places Index Score for Project Location (b)	62.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Land Use	User Defined Unit
Construction: Construction Phases	Overall schedule provided by City of Oceanside. Detailed phasing based on similar facilities.
Construction: Off-Road Equipment	Assumptions provided by City of Oceanside.
Operations: Energy Use	Oceanside Mesa Garrison Lift Station pumps estimated to consume 800 MWh of electricity per year

Appendix B

Energy Calculations

Construction Energy Use

Off-Road Construction Equipment Energy Use (Diesel)											
Phase Name	Equipment Type	Number per Day	Hours Per Day	Horsepower	Load Factor	Working Days	Gallons/ hp-hr	Gallons/ Hr	Gallons/ Day	Total Gallons	Total MBTU
OMG FM Dewatering	Tractors/Loaders/Backhoes	1	8	84	0.37	100	0.0565	1.76	14.05	1,404.52	195.23
	Generator Sets	1	8	14	0.74	100	0.0423	0.44	3.51	350.68	48.74
	Bore/Drill Rigs	1	6	83	0.5	100	0.0562	2.33	14.00	1,400.08	194.61
LOR A&B Dewatering	Tractors/Loaders/Backhoes	1	8	84	0.37	100	0.0565	1.76	14.05	1,404.52	195.23
	Generator Sets	1	8	14	0.74	100	0.0423	0.44	3.51	350.68	48.74
	Bore/Drill Rigs	1	6	83	0.5	100	0.0562	2.33	14.00	1,400.08	194.61
	Excavators	1	6	36	0.38	100	0.0561	0.77	4.60	460.45	64.00
LOR C1 Dewatering	Tractors/Loaders/Backhoes	1	8	84	0.37	262	0.0565	1.76	14.05	3,679.85	511.50
	Generator Sets	1	8	14	0.74	262	0.0423	0.44	3.51	918.78	127.71
	Bore/Drill Rigs	1	6	83	0.5	262	0.0562	2.33	14.00	3,668.21	509.88
	Excavators	1	6	36	0.38	262	0.0561	0.77	4.60	1,206.38	167.69
LOR C2 Dewatering	Tractors/Loaders/Backhoes	1	8	84	0.37	57	0.0565	1.76	14.05	800.58	111.28
	Generator Sets	1	8	14	0.74	57	0.0423	0.44	3.51	199.89	27.78
	Bore/Drill Rigs	1	6	83	0.5	57	0.0562	2.33	14.00	798.05	110.93
	Excavators	1	6	36	0.38	57	0.0561	0.77	4.60	262.46	36.48
LOR D Dewatering	Tractors/Loaders/Backhoes	1	8	84	0.37	54	0.0565	1.76	14.05	758.44	105.42
	Generator Sets	1	8	14	0.74	54	0.0423	0.44	3.51	189.37	26.32
	Bore/Drill Rigs	1	6	83	0.5	54	0.0562	2.33	14.00	756.04	105.09
	Excavators	1	6	36	0.38	54	0.0561	0.77	4.60	248.64	34.56
MALS FM Dewatering	Tractors/Loaders/Backhoes	1	8	84	0.37	100	0.0565	1.76	14.05	1,404.52	195.23
	Generator Sets	1	8	14	0.74	100	0.0423	0.44	3.51	350.68	48.74
	Bore/Drill Rigs	1	6	83	0.5	100	0.0562	2.33	14.00	1,400.08	194.61
MA SL&R Dewatering	Tractors/Loaders/Backhoes	1	8	84	0.37	40	0.0565	1.76	14.05	561.81	78.09
	Generator Sets	1	8	14	0.74	40	0.0423	0.44	3.51	140.27	19.50
	Bore/Drill Rigs	1	6	83	0.5	40	0.0562	2.33	14.00	560.03	77.84
OMG LS Grading	Graders	1	6	148	0.41	55	0.0538	3.27	19.60	1,077.89	149.83
	Rubber Tired Dozers	1	6	367	0.4	55	0.0454	6.66	39.95	2,197.45	305.45
	Tractors/Loaders/Backhoes	1	7	84	0.37	55	0.0565	1.76	12.29	675.93	93.95
	Excavators	1	6	36	0.38	55	0.0561	0.77	4.60	253.25	35.20
OMG LS Construction	Cranes	1	4	367	0.29	412	0.0515	5.48	21.94	9,038.07	1,256.29
	Tractors/Loaders/Backhoes	2	8	84	0.37	412	0.0565	1.76	28.09	11,573.28	1,608.69
	Excavators	1	6	36	0.38	412	0.0561	0.77	4.60	1,897.06	263.69
	Skid Steer Loaders	1	6	71	0.37	412	0.0562	1.48	8.86	3,651.18	507.51
	Plate Compactors	1	4	8	0.43	412	0.0561	0.19	0.77	317.93	44.19
	Generator Sets	1	8	14	0.74	412	0.0423	0.44	3.51	1,444.80	200.83
	Rollers	1	6	36	0.38	412	0.0579	0.79	4.75	1,956.35	271.93
	Pavers	1	6	81	0.42	412	0.0565	1.92	11.54	4,754.56	660.88
OMG FM Pressure Test and Valve Installation	Cranes	1	4	367	0.29	17	0.0515	5.48	21.94	372.93	51.84
	Tractors/Loaders/Backhoes	1	8	84	0.37	17	0.0565	1.76	14.05	238.77	33.19
	Generator Sets	1	8	14	0.74	17	0.0423	0.44	3.51	59.62	8.29
	Pumps	1	8	11	0.74	17	0.0423	0.34	2.76	46.88	6.52
LOR A&B Pressure Test and Valve Installation	Cranes	1	4	367	0.29	17	0.0515	5.48	21.94	372.93	51.84
	Tractors/Loaders/Backhoes	1	8	84	0.37	17	0.0565	1.76	14.05	238.77	33.19
	Generator Sets	1	8	14	0.74	17	0.0423	0.44	3.51	59.62	8.29
	Pumps	1	8	11	0.74	17	0.0423	0.34	2.76	46.88	6.52
LOR C1 Pressure Test and Valve Installation	Cranes	1	4	367	0.29	10	0.0515	5.48	21.94	219.37	30.49
	Tractors/Loaders/Backhoes	1	8	84	0.37	10	0.0565	1.76	14.05	140.45	19.52
	Generator Sets	1	8	14	0.74	10	0.0423	0.44	3.51	35.07	4.87
	Pumps	1	8	11	0.74	10	0.0423	0.34	2.76	27.58	3.83
LOR C2 Pressure Test and Valve Installation	Cranes	1	4	367	0.29	10	0.0515	5.48	21.94	219.37	30.49
	Tractors/Loaders/Backhoes	1	8	84	0.37	10	0.0565	1.76	14.05	140.45	19.52
	Generator Sets	1	8	14	0.74	10	0.0423	0.44	3.51	35.07	4.87
	Pumps	1	8	11	0.74	10	0.0423	0.34	2.76	27.58	3.83
LOR D Pressure Test and Valve Installation	Cranes	1	4	367	0.29	10	0.0515	5.48	21.94	219.37	30.49
	Tractors/Loaders/Backhoes	1	8	84	0.37	10	0.0565	1.76	14.05	140.45	19.52
	Generator Sets	1	8	14	0.74	10	0.0423	0.44	3.51	35.07	4.87
	Pumps	1	8	11	0.74	10	0.0423	0.34	2.76	27.58	3.83
MALS FM Pressure Test	Tractors/Loaders/Backhoes	1	8	84	0.37	17	0.0565	1.76	14.05	238.77	33.19
	Generator Sets	1	8	14	0.74	17	0.0423	0.44	3.51	59.62	8.29
	Pumps	1	8	11	0.74	17	0.0423	0.34	2.76	46.88	6.52

Construction Energy Use

Off-Road Construction Equipment Energy Use (Diesel)											
Phase Name	Equipment Type	Number per Day	Hours Per Day	Horsepower	Load Factor	Working Days	Gallons/ hp-hr	Gallons/ Hr	Gallons/ Day	Total Gallons	Total MBTU
MA SL&R Pipe Testing	Tractors/Loaders/Backhoes	1	8	84	0.37	6	0.0565	1.76	14.05	84.27	11.71
	Generator Sets	1	8	14	0.74	6	0.0423	0.44	3.51	21.04	2.92
	Pumps	1	8	11	0.74	6	0.0423	0.34	2.76	16.55	2.30
OMG FM Paving	Pavers	1	7	81	0.42	54	0.0565	1.92	13.46	727.03	101.06
	Rollers	2	7	36	0.38	54	0.0579	0.79	11.08	598.30	83.16
	Sweepers/Scrubbers	1	4	36	0.46	54	0.0574	0.95	3.80	205.37	28.55
	Skid Steer Loaders	1	6	71	0.37	54	0.0562	1.48	8.86	478.55	66.52
LOR A&B Paving	Pavers	1	7	81	0.42	54	0.0565	1.92	13.46	727.03	101.06
	Rollers	5	7	36	0.38	54	0.0579	0.79	27.70	1,495.75	207.91
	Skid Steer Loaders	2	6	71	0.37	54	0.0562	1.48	17.72	957.10	133.04
	Sweepers/Scrubbers	2	4	36	0.46	54	0.0574	0.95	7.61	410.74	57.09
LOR C1 Paving	Pavers	1	7	81	0.42	20	0.0565	1.92	13.46	269.27	37.43
	Rollers	5	7	36	0.38	20	0.0579	0.79	27.70	553.98	77.00
	Skid Steer Loaders	2	6	71	0.37	20	0.0562	1.48	17.72	354.48	49.27
	Sweepers/Scrubbers	2	4	36	0.46	20	0.0574	0.95	7.61	152.12	21.15
LOR C2 Paving	Pavers	1	7	81	0.42	20	0.0565	1.92	13.46	269.27	37.43
	Rollers	5	7	36	0.38	20	0.0579	0.79	27.70	553.98	77.00
	Skid Steer Loaders	2	6	71	0.37	20	0.0562	1.48	17.72	354.48	49.27
	Sweepers/Scrubbers	2	4	36	0.46	20	0.0574	0.95	7.61	152.12	21.15
LOR D Paving	Pavers	1	7	81	0.42	20	0.0565	1.92	13.46	269.27	37.43
	Rollers	5	7	36	0.38	20	0.0579	0.79	27.70	553.98	77.00
	Skid Steer Loaders	2	6	71	0.37	20	0.0562	1.48	17.72	354.48	49.27
	Sweepers/Scrubbers	2	4	36	0.46	20	0.0574	0.95	7.61	152.12	21.15
MALS FM Paving	Pavers	1	7	81	0.42	44	0.0565	1.92	13.46	592.40	82.34
	Rollers	2	7	36	0.38	44	0.0579	0.79	11.08	487.50	67.76
	Sweepers/Scrubbers	1	4	36	0.46	44	0.0574	0.95	3.80	167.34	23.26
	Skid Steer Loaders	1	6	71	0.37	44	0.0562	1.48	8.86	389.93	54.20
MA SL&R Paving	Pavers	1	7	81	0.42	10	0.0565	1.92	13.46	134.64	18.71
	Rollers	2	7	36	0.38	10	0.0579	0.79	11.08	110.80	15.40
	Skid Steer Loaders	1	6	71	0.37	10	0.0562	1.48	8.86	88.62	12.32
	Sweepers/Scrubbers	1	4	36	0.46	10	0.0574	0.95	3.80	38.03	5.29
OMG FM Pavement Removal and Excavation	Concrete/Industrial Saws	1	4	33	0.73	47	0.0419	1.01	4.04	189.78	26.38
	Excavators	3	6	36	0.38	47	0.0561	0.77	13.81	649.24	90.24
	Tractors/Loaders/Backhoes	1	6	84	0.37	47	0.0565	1.76	10.53	495.09	68.82
OMG FM Pipeline Installation and Backfill	Excavators	1	6	36	0.38	277	0.0561	0.77	4.60	1,275.45	177.29
	Tractors/Loaders/Backhoes	2	6	84	0.37	277	0.0565	1.76	21.07	5,835.80	811.18
OMG FM Pit and HDD	Bore/Drill Rigs	1	8	83	0.5	116	0.0562	2.33	18.67	2,165.46	301.00
	Cranes	1	4	367	0.29	116	0.0515	5.48	21.94	2,544.70	353.71
	Generator Sets	1	8	14	0.74	116	0.0423	0.44	3.51	406.79	56.54
	Excavators	1	6	36	0.38	116	0.0561	0.77	4.60	534.12	74.24
	Tractors/Loaders/Backhoes	1	6	84	0.37	116	0.0565	1.76	10.53	1,221.94	169.85
OMG FM Connection to LS	Generator Sets	1	8	14	0.74	27	0.0423	0.44	3.51	94.68	13.16
	Cranes	1	4	367	0.29	27	0.0515	5.48	21.94	592.30	82.33
	Excavators	1	6	36	0.38	27	0.0561	0.77	4.60	124.32	17.28
	Tractors/Loaders/Backhoes	1	6	84	0.37	27	0.0565	1.76	10.53	284.42	39.53
	Plate Compactors	1	4	8	0.43	27	0.0561	0.19	0.77	20.84	2.90
LOR A&B Pavement Removal and Excavation	Concrete/Industrial Saws	1	4	33	0.73	48	0.0419	1.01	4.04	193.82	26.94
	Excavators	3	6	36	0.38	48	0.0561	0.77	13.81	663.05	92.16
	Tractors/Loaders/Backhoes	2	6	84	0.37	48	0.0565	1.76	21.07	1,011.26	140.56
	Crushing/Proc. Equipment	1	6	12	0.85	48	0.0561	0.57	3.43	164.74	22.90
	Sweepers/Scrubbers	1	4	36	0.46	48	0.0574	0.95	3.80	182.55	25.37
LOR A&B Pipeline Installation and Backfill	Excavators	2	6	36	0.38	277	0.0561	0.77	9.21	2,550.90	354.58
	Tractors/Loaders/Backhoes	2	6	84	0.37	277	0.0565	1.76	21.07	5,835.80	811.18
LOR A&B Pit and HDD	Bore/Drill Rigs	1	8	83	0.5	116	0.0562	2.33	18.67	2,165.46	301.00
	Cranes	1	4	367	0.29	116	0.0515	5.48	21.94	2,544.70	353.71
	Excavators	1	6	36	0.38	116	0.0561	0.77	4.60	534.12	74.24
	Forklifts	1	4	82	0.2	116	0.0573	0.94	3.76	436.21	60.63
	Tractors/Loaders/Backhoes	1	6	84	0.37	116	0.0565	1.76	10.53	1,221.94	169.85
LOR C1 Pavement	Concrete/Industrial Saws	1	4	33	0.73	262	0.0419	1.01	4.04	1,057.92	147.05
	Excavators	3	6	36	0.38	262	0.0561	0.77	13.81	3,619.15	503.06

Construction Energy Use

Off-Road Construction Equipment Energy Use (Diesel)											
Phase Name	Equipment Type	Number per Day	Hours Per Day	Horsepower	Load Factor	Working Days	Gallons/ hp-hr	Gallons/ Hr	Gallons/ Day	Total Gallons	Total MBTU
LOR C1 Pavement Removal and Excavation	Tractors/Loaders/Backhoes	2	6	84	0.37	262	0.0565	1.76	21.07	5,519.78	767.25
	Crushing/Proc. Equipment	1	6	12	0.85	262	0.0561	0.57	3.43	899.22	124.99
	Sweepers/Scrubbers	1	4	36	0.46	262	0.0574	0.95	3.80	996.42	138.50
LOR C1 Pipe Installation and Backfill	Excavators	2	6	36	0.38	262	0.0561	0.77	9.21	2,412.76	335.37
	Tractors/Loaders/Backhoes	2	6	84	0.37	262	0.0565	1.76	21.07	5,519.78	767.25
LOR C1 HDD	Bore/Drill Rigs	1	8	83	0.5	60	0.0562	2.33	18.67	1,120.06	155.69
	Cranes	1	4	367	0.29	60	0.0515	5.48	21.94	1,316.22	182.96
	Excavators	1	6	36	0.38	60	0.0561	0.77	4.60	276.27	38.40
	Forklifts	1	4	82	0.2	60	0.0573	0.94	3.76	225.62	31.36
	Tractors/Loaders/Backhoes	1	6	84	0.37	60	0.0565	1.76	10.53	632.04	87.85
LOR C2 Pavement Removal and Excavation	Concrete/Industrial Saws	1	4	33	0.73	163	0.0419	1.01	4.04	658.17	91.49
	Excavators	3	6	36	0.38	163	0.0561	0.77	13.81	2,251.61	312.97
	Tractors/Loaders/Backhoes	2	6	84	0.37	163	0.0565	1.76	21.07	3,434.06	477.33
	Crushing/Proc. Equipment	1	6	12	0.85	163	0.0561	0.57	3.43	559.44	77.76
	Sweepers/Scrubbers	1	4	36	0.46	163	0.0574	0.95	3.80	619.91	86.17
LOR C2 HDD	Bore/Drill Rigs	1	8	83	0.5	81	0.0562	2.33	18.67	1,512.09	210.18
	Cranes	1	4	367	0.29	81	0.0515	5.48	21.94	1,776.90	246.99
	Excavators	1	6	36	0.38	81	0.0561	0.77	4.60	372.97	51.84
	Forklifts	1	4	82	0.2	81	0.0573	0.94	3.76	304.59	42.34
	Tractors/Loaders/Backhoes	1	6	84	0.37	81	0.0565	1.76	10.53	853.25	118.60
LOR C2 Pipe Installation and Backfill	Excavators	2	6	36	0.38	52	0.0561	0.77	9.21	478.87	66.56
	Tractors/Loaders/Backhoes	2	6	84	0.37	52	0.0565	1.76	21.07	1,095.53	152.28
LOR D Pavement Removal and Excavation	Concrete/Industrial Saws	1	4	33	0.73	52	0.0419	1.01	4.04	209.97	29.19
	Excavators	3	6	36	0.38	52	0.0561	0.77	13.81	718.30	99.84
	Tractors/Loaders/Backhoes	2	6	84	0.37	52	0.0565	1.76	21.07	1,095.53	152.28
	Crushing/Proc. Equipment	1	6	12	0.85	52	0.0561	0.57	3.43	178.47	24.81
	Sweepers/Scrubbers	1	4	36	0.46	52	0.0574	0.95	3.80	197.76	27.49
LOR D Pipe Installation and Backfill	Excavators	2	6	36	0.38	43	0.0561	0.77	9.21	395.99	55.04
	Tractors/Loaders/Backhoes	2	6	84	0.37	43	0.0565	1.76	21.07	905.92	125.92
LOR D HDD	Bore/Drill Rigs	1	8	83	0.5	121	0.0562	2.33	18.67	2,258.80	313.97
	Cranes	1	4	367	0.29	121	0.0515	5.48	21.94	2,654.38	368.96
	Excavators	1	6	36	0.38	121	0.0561	0.77	4.60	557.15	77.44
	Forklifts	1	4	82	0.2	121	0.0573	0.94	3.76	455.01	63.25
	Tractors/Loaders/Backhoes	1	6	84	0.37	121	0.0565	1.76	10.53	1,274.61	177.17
MALS FM Pavement Removal and Excavation	Concrete/Industrial Saws	1	4	33	0.73	48	0.0419	1.01	4.04	193.82	26.94
	Excavators	1	6	36	0.38	48	0.0561	0.77	4.60	221.02	30.72
	Tractors/Loaders/Backhoes	1	6	84	0.37	48	0.0565	1.76	10.53	505.63	70.28
	Crushing/Proc. Equipment	1	6	12	0.85	48	0.0561	0.57	3.43	164.74	22.90
	Sweepers/Scrubbers	1	4	36	0.46	48	0.0574	0.95	3.80	182.55	25.37
MALS FM Pipe Installation and Backfill	Excavators	2	6	36	0.38	277	0.0561	0.77	9.21	2,550.90	354.58
	Tractors/Loaders/Backhoes	1	6	84	0.37	277	0.0565	1.76	10.53	2,917.90	405.59
MALS FM HDD	Bore/Drill Rigs	1	8	83	0.5	116	0.0562	2.33	18.67	2,165.46	301.00
	Cranes	1	4	367	0.29	116	0.0515	5.48	21.94	2,544.70	353.71
	Generator Sets	1	8	14	0.74	116	0.0423	0.44	3.51	406.79	56.54
	Excavators	1	6	36	0.38	116	0.0561	0.77	4.60	534.12	74.24
	Tractors/Loaders/Backhoes	1	6	84	0.37	116	0.0565	1.76	10.53	1,221.94	169.85
MA SL&R Pavement Removal and Excavation	Concrete/Industrial Saws	1	4	33	0.73	25	0.0419	1.01	4.04	100.95	14.03
	Excavators	1	6	36	0.38	25	0.0561	0.77	4.60	115.11	16.00
	Tractors/Loaders/Backhoes	1	6	84	0.37	25	0.0565	1.76	10.53	263.35	36.61
	Crushing/Proc. Equipment	1	6	12	0.85	25	0.0561	0.57	3.43	85.80	11.93
	Sweepers/Scrubbers	1	4	36	0.46	25	0.0574	0.95	3.80	95.08	13.22
MA SL&R Pipe Installation and Backfill	Excavators	1	6	36	0.38	64	0.0561	0.77	4.60	294.69	40.96
	Tractors/Loaders/Backhoes	1	6	84	0.37	64	0.0565	1.76	10.53	674.17	93.71
	Sweepers/Scrubbers	1	4	36	0.46	64	0.0574	0.95	3.80	243.40	33.83
MA SL&R Lining	Generator Sets	1	8	14	0.74	64	0.0423	0.44	3.51	224.43	31.20
	Excavators	1	6	36	0.38	64	0.0561	0.77	4.60	294.69	40.96
	Welders	1	6	46	0.45	64	0.0258	0.53	3.21	205.19	28.52
	Tractors/Loaders/Backhoes	1	6	84	0.37	64	0.0565	1.76	10.53	674.17	93.71
	Generator Sets	1	8	14	0.74	45	0.0423	0.44	3.51	157.81	21.93
	Cranes	1	4	367	0.29	45	0.0515	5.48	21.94	987.17	137.22

Construction Energy Use

Off-Road Construction Equipment Energy Use (Diesel)											
Phase Name	Equipment Type	Number per Day	Hours Per Day	Horsepower	Load Factor	Working Days	Gallons/ hp-hr	Gallons/ Hr	Gallons/ Day	Total Gallons	Total MBTU
MA SL&R Connections	Excavators	1	6	36	0.38	45	0.0561	0.77	4.60	207.20	28.80
	Tractors/Loaders/Backhoes	1	6	84	0.37	45	0.0565	1.76	10.53	474.03	65.89
	Plate Compactors	1	4	8	0.43	45	0.0561	0.19	0.77	34.73	4.83
									CONSTRUCTION OFF-ROAD TOTAL DIESEL	**179,378**	**24,934**

Construction Energy Use

On-Road Construction Energy Use										
Phase Name	**Trip Type**	**One-Way Trips per Day**	**Miles per Trip**	**Work Days**	**Total VMT**	**Gallons Diesel / VMT**	**Total Diesel Gallons**	**Gallons Gas / VMT**	**Total Gallons Gas**	**Total MBTU**
OMG LS Construction	Worker	0.00042	11.97	412	2.07E+00	2.18E-04	4.51E-04	3.11E-02	6.44E-02	8.05E-03
OMG LS Construction	Vendor	0.0001639	7.63	412	5.15E-01	1.16E-01	5.96E-02	1.32E-02	6.78E-03	9.13E-03
OMG FM Dewatering	Worker	7.5	11.97	100	8.98E+03	2.18E-04	1.96E+00	3.11E-02	2.79E+02	3.49E+01
LOR A&B Dewatering	Worker	10	11.97	100	1.20E+04	2.18E-04	2.61E+00	3.11E-02	3.72E+02	4.65E+01
LOR C1 Dewatering	Worker	10	11.97	262	3.14E+04	2.18E-04	6.84E+00	3.11E-02	9.75E+02	1.22E+02
LOR C2 Dewatering	Worker	10	11.97	57	6.82E+03	2.18E-04	1.49E+00	3.11E-02	2.12E+02	2.65E+01
LOR D Dewatering	Worker	10	11.97	54	6.46E+03	2.18E-04	1.41E+00	3.11E-02	2.01E+02	2.51E+01
MALS FM Dewatering	Worker	7.5	11.97	100	8.98E+03	2.18E-04	1.96E+00	3.11E-02	2.79E+02	3.49E+01
MA SL&R Dewatering	Worker	7.5	11.97	40	3.59E+03	2.18E-04	7.83E-01	3.11E-02	1.12E+02	1.39E+01
OMG LS Grading	Worker	10	11.97	55	6.58E+03	2.18E-04	1.43E+00	3.11E-02	2.05E+02	2.56E+01
OMG FM Pressure Test and Valve Installation	Worker	0.00042	11.97	17	8.55E-02	2.18E-04	1.86E-05	3.11E-02	2.66E-03	3.32E-04
OMG FM Pressure Test and Valve Installation	Vendor	0.0001639	7.63	17	2.13E-02	1.16E-01	2.46E-03	1.32E-02	2.80E-04	3.77E-04
LOR A&B Pressure Test and Valve Installation	Worker	0.00042	11.97	17	8.55E-02	2.18E-04	1.86E-05	3.11E-02	2.66E-03	3.32E-04
LOR A&B Pressure Test and Valve Installation	Vendor	0.0001639	7.63	17	2.13E-02	1.16E-01	2.46E-03	1.32E-02	2.80E-04	3.77E-04
LOR C1 Pressure Test and Valve Installation	Worker	0.00042	11.97	10	5.03E-02	2.18E-04	1.10E-05	3.11E-02	1.56E-03	1.95E-04
LOR C1 Pressure Test and Valve Installation	Vendor	0.0001639	7.63	10	1.25E-02	1.16E-01	1.45E-03	1.32E-02	1.64E-04	2.22E-04
LOR C2 Pressure Test and Valve Installation	Worker	0.00042	11.97	10	5.03E-02	2.18E-04	1.10E-05	3.11E-02	1.56E-03	1.95E-04
LOR C2 Pressure Test and Valve Installation	Vendor	0.0001639	7.63	10	1.25E-02	1.16E-01	1.45E-03	1.32E-02	1.64E-04	2.22E-04
LOR D Pressure Test and Valve Installation	Worker	0.00042	11.97	10	5.03E-02	2.18E-04	1.10E-05	3.11E-02	1.56E-03	1.95E-04
LOR D Pressure Test and Valve Installation	Vendor	0.0001639	7.63	10	1.25E-02	1.16E-01	1.45E-03	1.32E-02	1.64E-04	2.22E-04
MALS FM Pressure Test	Worker	0.00042	11.97	17	8.55E-02	2.18E-04	1.86E-05	3.11E-02	2.66E-03	3.32E-04
MALS FM Pressure Test	Vendor	0.0001639	7.63	17	2.13E-02	1.16E-01	2.46E-03	1.32E-02	2.80E-04	3.77E-04
MA SL&R Pipe Testing	Worker	0.00042	11.97	6	3.02E-02	2.18E-04	6.57E-06	3.11E-02	9.38E-04	1.17E-04
MA SL&R Pipe Testing	Vendor	0.0001639	7.63	6	7.50E-03	1.16E-01	8.69E-04	1.32E-02	9.87E-05	1.33E-04
OMG FM Paving	Worker	12.5	11.97	54	8.08E+03	2.18E-04	1.76E+00	3.11E-02	2.51E+02	3.14E+01
LOR A&B Paving	Worker	25	11.97	54	1.62E+04	2.18E-04	3.52E+00	3.11E-02	5.02E+02	6.28E+01
LOR C1 Paving	Worker	25	11.97	20	5.99E+03	2.18E-04	1.30E+00	3.11E-02	1.86E+02	2.32E+01
LOR C2 Paving	Worker	25	11.97	20	5.99E+03	2.18E-04	1.30E+00	3.11E-02	1.86E+02	2.32E+01
LOR D Paving	Worker	25	11.97	20	5.99E+03	2.18E-04	1.30E+00	3.11E-02	1.86E+02	2.32E+01
MALS FM Paving	Worker	12.5	11.97	44	6.58E+03	2.18E-04	1.43E+00	3.11E-02	2.05E+02	2.56E+01
MA SL&R Paving	Worker	12.5	11.97	10	1.50E+03	2.18E-04	3.26E-01	3.11E-02	4.65E+01	5.81E+00
OMG FM Pavement Removal and Excavation	Worker	12.5	11.97	47	7.03E+03	2.18E-04	1.53E+00	3.11E-02	2.19E+02	2.73E+01
OMG FM Pipeline Installation and Backfill	Worker	7.5	11.97	277	2.49E+04	2.18E-04	5.42E+00	3.11E-02	7.73E+02	9.66E+01
OMG FM Pit and HDD	Worker	12.5	11.97	116	1.74E+04	2.18E-04	3.78E+00	3.11E-02	5.39E+02	6.74E+01
OMG FM Connection to LS	Worker	12.5	11.97	27	4.04E+03	2.18E-04	8.81E-01	3.11E-02	1.26E+02	1.57E+01
LOR A&B Pavement Removal and Excavation	Worker	20	11.97	48	1.15E+04	2.18E-04	2.50E+00	3.11E-02	3.57E+02	4.46E+01
LOR A&B Pipeline Installation and Backfill	Worker	10	11.97	277	3.32E+04	2.18E-04	7.23E+00	3.11E-02	1.03E+03	1.29E+02
LOR A&B Pit and HDD	Worker	12.5	11.97	116	1.74E+04	2.18E-04	3.78E+00	3.11E-02	5.39E+02	6.74E+01
LOR C1 Pavement Removal and Excavation	Worker	20	11.97	262	6.27E+04	2.18E-04	1.37E+01	3.11E-02	1.95E+03	2.44E+02
LOR C1 Pipe Installation and Backfill	Worker	10	11.97	262	3.14E+04	2.18E-04	6.84E+00	3.11E-02	9.75E+02	1.22E+02
LOR C1 HDD	Worker	12.5	11.97	60	8.98E+03	2.18E-04	1.96E+00	3.11E-02	2.79E+02	3.49E+01
LOR C2 Pavement Removal and Excavation	Worker	20	11.97	163	3.90E+04	2.18E-04	8.51E+00	3.11E-02	1.21E+03	1.52E+02
LOR C2 HDD	Worker	12.5	11.97	81	1.21E+04	2.18E-04	2.64E+00	3.11E-02	3.77E+02	4.71E+01
LOR C2 Pipe Installation and Backfill	Worker	10	11.97	52	6.22E+03	2.18E-04	1.36E+00	3.11E-02	1.93E+02	2.42E+01
LOR D Pavement Removal and Excavation	Worker	20	11.97	52	1.24E+04	2.18E-04	2.71E+00	3.11E-02	3.87E+02	4.84E+01
LOR D Pipe Installation and Backfill	Worker	10	11.97	43	5.15E+03	2.18E-04	1.12E+00	3.11E-02	1.60E+02	2.00E+01
LOR D HDD	Worker	12.5	11.97	121	1.81E+04	2.18E-04	3.95E+00	3.11E-02	5.63E+02	7.03E+01
MALS FM Pavement Removal and Excavation	Worker	12.5	11.97	48	7.18E+03	2.18E-04	1.57E+00	3.11E-02	2.23E+02	2.79E+01
MALS FM Pipe Installation and Backfill	Worker	7.5	11.97	277	2.49E+04	2.18E-04	5.42E+00	3.11E-02	7.73E+02	9.66E+01
MALS FM HDD	Worker	12.5	11.97	116	1.74E+04	2.18E-04	3.78E+00	3.11E-02	5.39E+02	6.74E+01
MA SL&R Pavement Removal and Excavation	Worker	12.5	11.97	25	3.74E+03	2.18E-04	8.15E-01	3.11E-02	1.16E+02	1.45E+01
MA SL&R Pipe Installation and Backfill	Worker	7.5	11.97	64	5.75E+03	2.18E-04	1.25E+00	3.11E-02	1.79E+02	2.23E+01
MA SL&R Lining	Worker	10	11.97	64	7.66E+03	2.18E-04	1.67E+00	3.11E-02	2.38E+02	2.98E+01
MA SL&R Connections	Worker	12.5	11.97	45	6.73E+03	2.18E-04	1.47E+00	3.11E-02	2.09E+02	2.62E+01
Project Construction On-Road Total					**5.20E+05**		**1.13E+02**		**1.62E+04**	**2.02E+03**

Project Construction Energy By Source			
Source	Gallons Diesel	Gallons Gas	MBtu
Off-Road Construction Equipment	179,378	-	24,934
On-Road Construction Traffic	113	16,155	2,019
Project Construction Total	**179,491**	**16,155**	**26,952**

Operation Energy Use

Stationary Equipment Energy Use (Diesel)										
Equipment	**Equipment Count**	**Hours/Day**	**HP**	**Load Factor**	**Work Days**	**Gallons/HP-Hr**	**Gallons/Hour**	**Gallons/Day**	**Total Gallons**	**Total kBtu**
Emergency Generator	1	0.5	685	0.73	12	0.015990	7.995932	3.997966	47.98	6,669
								OPERATION STATIONARY TOTAL DIESEL	**47.98**	6,669

Project Electricity			
Type	**Source**	**kWh**	**kBtu**
Electricity	OMG LS	800,000	2,729,714
	Total	**800,000**	**2,729,714**

Project Total		
Energy Type	**Quantity**	**kBtu**
Diesel (Gallons)	48	6,669
Electricity (kWh)	800,000	2,729,714
Total		**2,736,382**