APPENDIX 3

TECHNICAL MEMORANDUM

DATE: June 22, 2026
TO: Tom Dodson, Tom Dodson & Associates
FROM: Haseeb Qureshi, Ali Dadabhoy, Urban Crossroads, Inc.
JOB NO: 17090-03 AQ & GHG Assessment

SUBJECT: FRAZIER PARK WELL AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

Urban Crossroads, Inc. is pleased to provide the following Air Quality and Greenhouse Gas Assessment for the Frazier Park Well Project (Project), which is located in the village of Frazier Park which is an unincorporated location in the southernmost portion of Kern County.

PROJECT OVERVIEW

The proposed Project consists of two water infrastructure improvements within the Frazier Park Public Utilities District (District): (1) construction of a new potable water production well (District Well No. 8) and associated facilities, and (2) replacement of existing potable water distribution pipelines within the District's service area.

- District Well No. 8 Facilities will consist of the construction of a new potable water production well and associated infrastructure on 0.27-acres, including approximately 11,596 square feet (sf) of well facilities.
- Replacement Pipeline Improvements will include the replacement of approximately 18,300 linear feet (lf) of 8-inch potable water distribution pipeline within the Summit Area, Lower Summit Area, and Texas Trail service areas.

Exhibits 1 and 2 illustrate the preliminary site plan. The Project is anticipated to have an opening year of 2027.

SUMMARY OF FINDINGS

Results of the assessment indicate that the Project would result in a less than significant with respect to air quality and greenhouse gases.

EXHIBIT 1: SITE PLAN – WELL NO.8

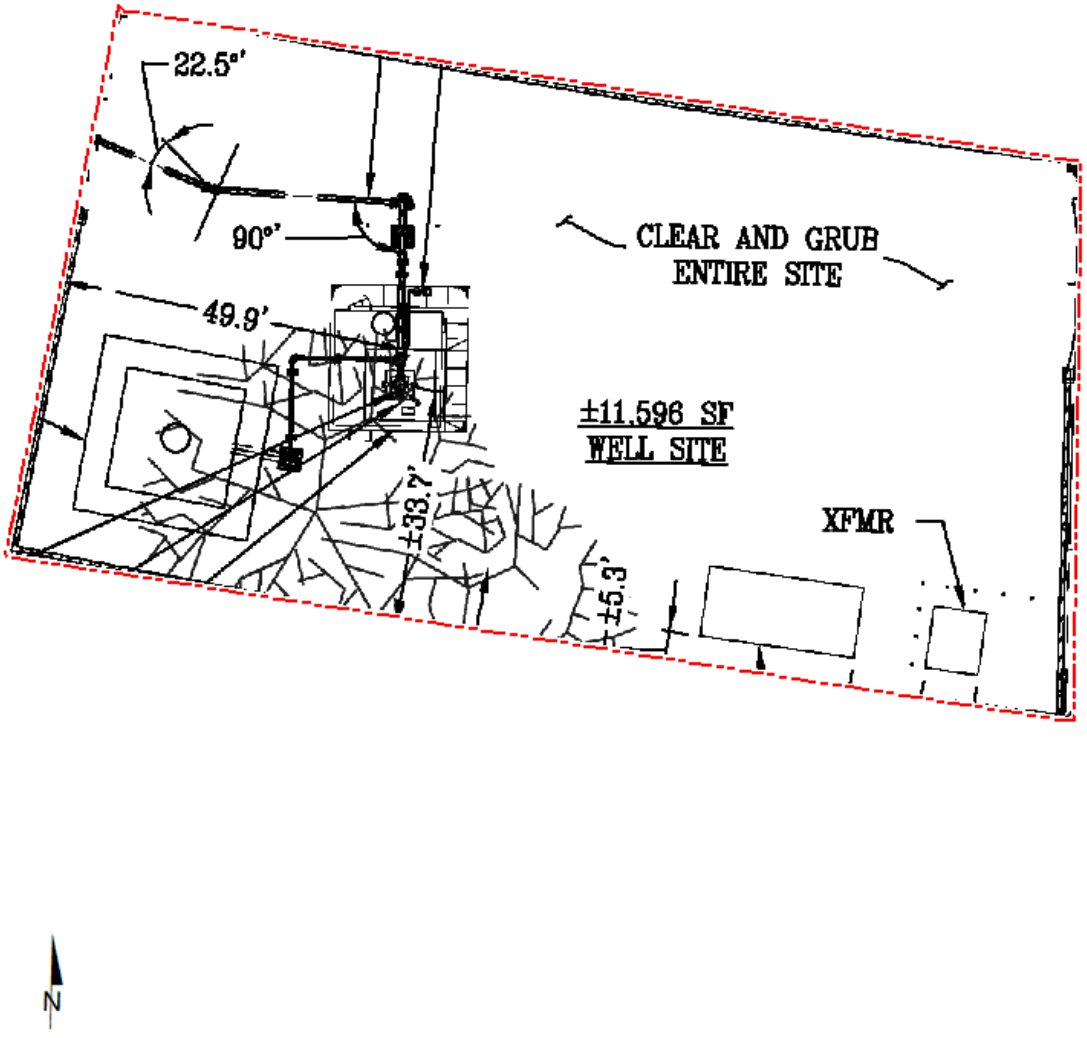
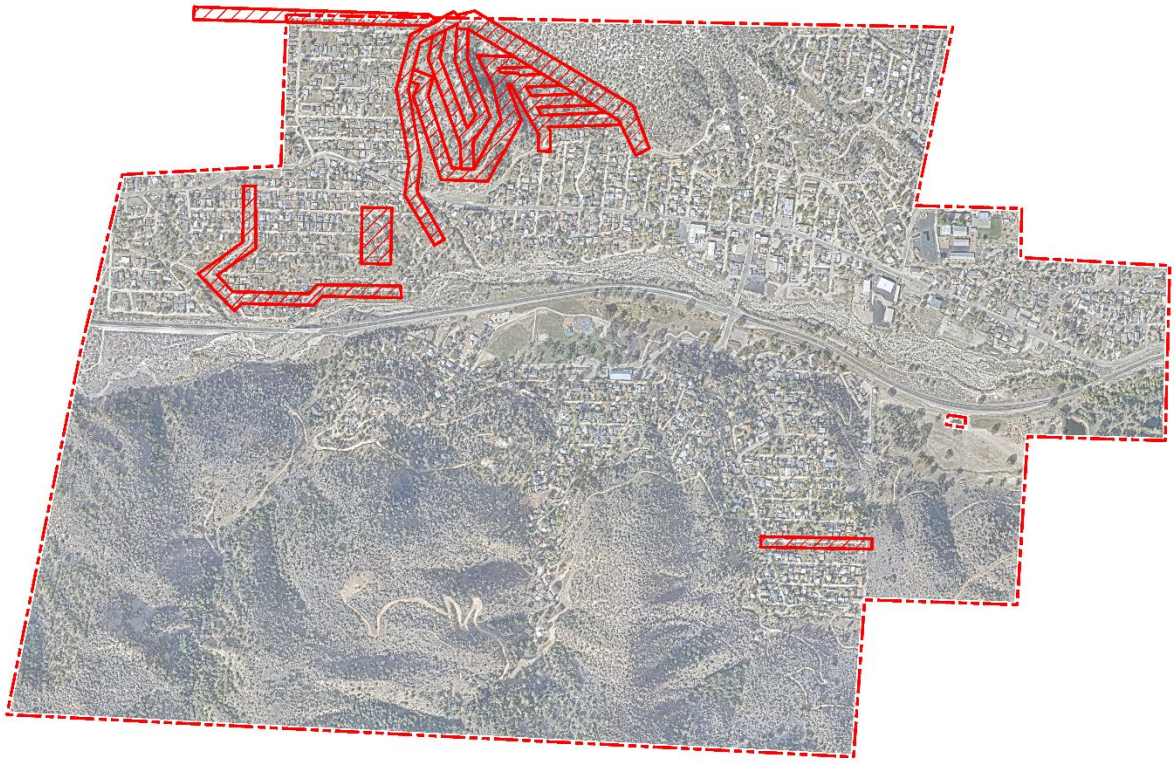


EXHIBIT 2: SITE PLAN – REPLACEMENT PIPELINES



PROJECT AIR QUALITY IMPACTS

AIR QUALITY SETTING

San Joaquin Valley Air Basin

The project site is located within the San Joaquin Valley Air Basin (SJVAB) and is under the jurisdiction of the SJVAPCD. A region's topographic features have a direct correlation with air pollution flow and therefore are used to SJVAB determine the boundary of air basins. The SJVAB is comprised of approximately 25,000 square miles and covers of eight counties including Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare, and the western portion of Kern. The SJVAB is defined by the Sierra Nevada mountains in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits where the San Joaquin-Sacramento Delta empties into San Francisco Bay. An aerial view of the SJVAB would simulate a "bowl" opening only to the north. These topographic features restrict air movement through and out of the basin

Regional Climate

Although marine air generally flows into the basin from the San Joaquin River Delta, the Coast Range hinders wind access into the SJVAB from the west, the Tehachapi Mountains prevent southerly passage of air flow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak air flow which becomes blocked vertically by high barometric pressure over the SJVAB. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500 to 3,000 feet).

Local climatological effects, including wind speed and direction, temperature, inversion layers, precipitation and fog, can exacerbate the air quality in the SJVAB. Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing vertically and by transporting it to other locations. For example, in the summer, wind usually originates at the north end of the SJVAB and flows in a south-southeasterly direction through the SJVAB, through Tehachapi pass, into the Southeast Desert Air Basin. In the winter, wind direction is reversed and flows in a north-northwesterly direction. In addition to the seasonal wind flow, a sea breeze flows into SJVAB during the day and a land breeze flowing out of the SJVAB at night. The diversified wind flow enhances the pollutant transport capability within SJVAB.

The vertical dispersion of air pollutants in the SJVAB is limited by the presence of persistent temperature inversions. Because of cooling of the atmosphere, air temperature usually decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Inversions can exist at the surface, or at any height above the ground. The height of the base of the inversion is known as the "mixing height." This is the level within which pollutants can mix vertically. Air above and below the inversion base does not mix because of the differences in air density. Semi-permanent systems of high barometric pressure fronts frequently establish themselves over the SJVAB, preventing low pressure systems that might otherwise bring rain and winds that clean the air.

Inversion layers are significant in determining ozone (O3) formation, and carbon monoxide (CO) and particulate matter 10 microns in diameter or less (PM10) concentrations. O3 and its precursors will mix and react to produce higher O3 concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as CO. PM10 is both directly emitted and created in the atmosphere as a chemical reaction. Concentration levels of pollutants are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth's surface goes through a radiative process on clear nights, where heat energy is transferred from the ground to a cooler night sky. As the earth's surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

Wind Patterns and Project Location

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. Periods of low inversions and low wind speeds are conditions favorable to high concentrations of CO and PM_{10}. In the winter, the greatest pollution problems are CO and nitrogen oxides (NO_X) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog.

Criteria Pollutants

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are O_3 (precursor emissions include NO_X and reactive organic gases (ROG), CO, particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The SJVAB is designated as a nonattainment area for the state O_3, PM_{10}, and $PM_{2.5}$ standards and is also an unclassified/nonattainment area for the state and federal standards for PM_{10} (federal), CO, NO_2, and SO_2.

Toxic Air Contaminants (TAC) Trend

In 1984, as a result of public concern for exposure to airborne carcinogens, CARB adopted regulations to reduce the amount of TAC emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the Ambient and Emission Trends of Toxic Air Contaminants in California journal article (1) which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene (C_6H_6), and 1,3-butadiene

(C_4H_6); those that are derived from stationary sources: perchloroethylene (C_2Cl_4) and hexavalent chromium (Cr(VI)); and those derived from photochemical reactions of emitted VOCs: formaldehyde (CH_2O) and acetaldehyde (C_2H_4O).[1] The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

REGULATORY BACKGROUND

FEDERAL REGULATIONS

The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the national ambient air quality standards (NAAQS) for ozone (O_3), carbon monoxide (CO), nitrogen oxides (NO_X), sulfur dioxide (SO_2), particulate matter 10 microns in diameter or less (PM_{10}), and lead (Pb) (2). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (3). The CAA also mandates that each state submit and implement state implementation plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (4) (5). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, particulate matter 2.5 microns in diameter or less ($PM_{2.5}$), and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

CALIFORNIA REGULATIONS

CARB

The CARB, which became part of the California EPA (CalEPA) in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for

[1] It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the California ambient air quality standards (CAAQS) for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the MDAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (6) (7).

Local air quality management districts, such as the SJVAPCD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for reactive organic compounds(ROG)/VOC, NO_X, CO and PM_{10}. However, air basins may use an alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the SJVAB. In response, the SJVAPCD has adopted a series of AQMP to meet the state and federal ambient air quality standards (8). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

APPLICABLE REGULATORY REQUIREMENTS

SJVAPCD Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 8021 (Fugitive Dust) (9).

SJVAPCD Rule 8021

The purpose of this rule is to limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities. This rule applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on site, and travel on access roads to and from the site.

METHODOLOGY

The California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SJVAPCD, released CalEEMod 2022 in May 2022. CalEEMod periodically releases updates, as such the latest version available at the time of this report has been utilized in this analysis. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (10). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality and GHG emissions.

STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the California Environmental Quality Act Guidelines (*CEQA Guidelines*) (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (11):

- Threshold 1: Conflict with or obstruct implementation of the applicable air quality plan.
- Threshold 2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.
- Threshold 3: Expose sensitive receptors to substantial pollutant concentrations.
- Threshold 4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

AIR QUALITY REGIONAL EMISSIONS THRESHOLDS

The SJVAPCD has developed regional significance thresholds for regulated pollutants, shown below in Table 1. The SJVAPCD's *CEQA Air Quality Significance Thresholds* indicate that any projects in the SJVAB with daily regional emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact (12).

TABLE 1: MAXIMUM REGIONAL ANNUAL EMISSIONS THRESHOLDS

Pollutant	Construction	Operations
NOX	10 tons/year	10 tons/year
VOC	10 tons/year	10 tons/year
PM10	15 tons/year	15 tons/year
PM2.5	15 tons/year	15 tons/year
SOX	27 tons/year	27 tons/year
CO	100 tons/year	100 tons/year

CONSTRUCTION ACTIVITIES

Construction activities associated with the Project would result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

Vertical Construction

- Site Preparation
- Grading
- Building Construction

Linear Construction

- Linear, Grading & Excavation
- Linear, Drainage, Utilities, & Sub-Grade

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. Based on information provided by the Project applicant, the Project would require 252 cubic yards (CY) of soil import for earthwork activities. Additionally, for purposes of analysis and as a conservative measure, it is anticipated that the 32,533 cubic yards of export would occur during the pipeline installations. The cubic yards of export will be analyzed using the Project Team provided hauling trip length of 20 miles.

OFF-SITE UTILITY AND INFRASTRUCTURE IMPROVEMENTS

To support the Project development, off-site improvements will consist of construction of a 24-foot-wide access driveway with entry gates to the District Well No. 8 site, installation of a 6-foot-high block wall surrounding the well site with entry gates on the west and east sides, construction of an approximately 25-foot-wide graded and compacted access road, and associated right-of-way improvements necessary to support access and utility connections. These improvements are anticipated to provide site access, security, and operational connectivity to existing District infrastructure.

Construction emissions from this off-site work would, therefore, be relatively short term, not concentrated in one area. The physical constraints would limit the amount of construction equipment that could be used, and any off-site and utility infrastructure construction would not use equipment totals that would exceed the equipment totals on Table 3. As such, no impacts beyond what has already been identified in this report are expected to occur.

ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul trucks commuting to and from the site. The number of worker, vendor, and hauling trips per phase is presented below in Table 2 and are based on information provided by the client and CalEEMod defaults.

TABLE 2: CONSTRUCTION TRIP ASSUMPTIONS

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Vertical Construction			
Site Preparation	18	0	0
Grading	20	0	3
Building Construction	4	0	0
Linear Construction			
Linear, Grading & Excavation	20	0	0
Linear, Drainage, Utilities & Sub-Grade	23	0	170

CONSTRUCTION DURATION

For purposes of analysis, construction of the Project is expected to commence in November 2026 and would last through April 2027. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent[2]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (13).

TABLE 3: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Days
Vertical Construction			
Site Preparation	11/02/2026	11/13/2026	10
Grading	11/16/2026	11/30/2026	11
Building Construction	12/01/2026	04/19/2027	100
Linear Construction			
Linear, Grading & Excavation	11/02/2026	12/21/2026	36
Linear, Drainage, Utilities & Sub-Grade	12/22/2026	01/22/2027	24

CONSTRUCTION EQUIPMENT

Equipment used for construction of both phases of the Project is shown in Table 4, respectively. Consistent with industry standards and typical construction practices, each piece of equipment will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

[2] As shown in the CalEEMod User's Guide Version 2022, Appendix G "Table G-11. Statewide Average Annual Offroad Equipment Emission Factors" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 4: CONSTRUCTION EQUIPMENT

Construction Activity	Equipment	Quantity	Hours
Vertical Construction			
Site Preparation	Rubber Tired Dozers	3	8
Site Preparation	Crawler Tractors	4	8
Grading	Excavators	1	8
Grading	Graders	1	8
Grading	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	3	8
Building Construction	Bore/Drill Rigs	1	8
Building Construction	Plate Compactors	1	8
Building Construction	Rubber Tired Dozers	1	8
Building Construction	Tractors/Loaders/Backhoes	1	8
Building Construction	Scrapers	2	8
Linear Construction		1	
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	1	8
Linear, Grading & Excavation	Crawler Tractors	1	8
Linear, Grading & Excavation	Excavators	1	8
Linear, Grading & Excavation	Plate Compactors	1	8
Linear, Grading & Excavation	Pavers	1	8
Linear, Grading & Excavation	Rollers	1	8
Linear, Grading & Excavation	Off-Highway Trucks	1	8
Linear, Grading & Excavation	Signal Boards	1	8
Linear, Drainage, Utilities, & Sub-Grade	Trenchers	1	8
Linear, Drainage, Utilities, & Sub-Grade	Cranes	1	8
Linear, Drainage, Utilities, & Sub-Grade	Forklifts	1	8
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	1	8
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	1	8
Linear, Drainage, Utilities, & Sub-Grade	Rollers	1	8
Linear, Drainage, Utilities, & Sub-Grade	Excavators	1	8
Linear, Drainage, Utilities, & Sub-Grade	Off-Highway Trucks	1	8
Linear, Drainage, Utilities, & Sub-Grade	Pavers	3	8

REGIONAL CONSTRUCTION EMISSIONS

The estimated maximum annual construction emissions without mitigation are summarized in Table 5. Under the assumed scenarios, emissions resulting from the Project construction would not exceed thresholds established by the SJVAPCD for emissions of any criteria pollutant. Project construction-source emissions impacts would therefore be less-than-significant. Detailed construction model outputs are presented in Appendix 1.

TABLE 5: REGIONAL CONSTRUCTION EMISSIONS SUMMARY

Year	ROG	NOX	CO	SO2	PM10	PM2.5
2026	0.10	0.90	0.90	0.00	0.12	0.07
2027	0.11	1.06	1.02	0.00	0.07	0.04
Maximum Annual Emissions	0.11	1.06	1.02	0.00	0.12	0.07
SJVAPCD Regional Thresholds	10	10	100	27	15	15
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Notes:

CalEEMod construction-source (unmitigated) emissions are presented in Appendix 1.

REGIONAL OPERATIONAL EMISSIONS

The proposed Project primarily involves construction activities associated with improvements to existing potable water infrastructure, including installation of a new water well and replacement of existing distribution pipelines across three service areas. The proposed water well would provide an estimated average production capacity of approximately 500 gallons per minute (gpm), contributing to regional potable water system operations and supporting long-term system reliability within the District's service area.

Long-term air quality impacts would occur from mobile-source emissions associated with Project-related operational traffic and from emissions associated with energy usage. For ongoing operations, the Project is not anticipated to require additional operational staff, and existing District personnel would be trained to the required level of certification. As such, operational activities would be limited to routine maintenance and monitoring, and operational emissions are anticipated to be less than significant.

POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered sensitive receptors.

The Project consists of two components: (1) construction of a new potable water production well (District Well No. 8) on a 0.27-acre site, and (2) replacement of approximately 18,300 linear feet of existing 8-inch potable water distribution pipeline within the Summit Area, Lower Summit Area, and Texas Trail service areas of the District. Because the Replacement Pipeline Improvements would occur within existing public rights-of-way of established residential neighborhoods, residential uses are located near portions of the linear construction alignment.

Based on thresholds established in SJVAPCD's *Guide for Assessing and Mitigating Air Quality Impacts* (14), project-related impacts on air quality may be significant when on-site emissions from construction or operational activities exceed the screening threshold of 100 pounds per day. Should Project on-site construction or operational emissions exceed this threshold, it is recommended that an ambient air quality analysis be performed. As shown in Table 5, maximum Project construction emissions of NO_X, the pollutant of greatest relative magnitude, would total 1.06 tons per year,

approximately 11 percent of the SJVAPCD's 10 tons/year regional significance threshold for that pollutant. Given the limited scale of on-site disturbance associated with the well site and pipeline trench alignment, and the absence of any new long-term stationary or mobile source of emissions associated with Project operation, on-site construction and operational emissions generated by the Project would not exceed this screening threshold. Because on-site emissions generated as a result of construction or operation of the proposed Project would not exceed this screening threshold, the proposed Project would not cause or contribute to a violation of the AAQS, and preparation of an ambient air quality analysis is not required.

Therefore, impacts related to the exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

CONSISTENCY WITH AIR QUALITY ATTAINMENT PLANS

An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a non-attainment area. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air quality standards. To bring the San Joaquin Valley into attainment, the SJVAPCD has developed the 2013 Plan for the Revoked 1-Hour Ozone Standard, adopted on September 19, 2013. The SJVAPCD also adopted the 2016 Plan for the 2008 8-Hour Ozone Standard in June 2016 to satisfy Clean Air Act requirements and ensure attainment of the 75 parts per billion (ppb) 8-hour ozone standard. To assure the SJVAB's continued attainment of the USEPA PM_{10} standard, the SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007. SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions) is designed to reduce PM_{10} emissions generated by human activity. The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards in November 2018 to address the USEPA 1997 annual PM2.5 standard of 15 µg/m^3 and 24-hour $PM_{2.5}$ standard of 65 µg/m^3, the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m^3, and the 2012 annual $PM_{2.5}$ standard of 12 µg/m^3.

CEQA requires that certain projects be analyzed for consistency with the applicable air quality plan. For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. In addition, emission reductions achieved through implementation of offset requirements are a major component of the SJVAPCD air quality plans. As discussed, construction of the Project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. As previously stated, for ongoing operations, the implementation of this Project will not necessitate the addition of any new operators. Consequently, there will be no increase in operational emissions associated with the Project. Therefore, the Project would not conflict with or obstruct implementation of SJVAPCD air quality plans.

PROJECT GHG ANALYSIS

CLIMATE CHANGE SETTING

Global climate change (GCC) is the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and

fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this memo cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, this memo will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radiative heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

REGULATORY SETTING

Executive Order S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Assembly Bill (AB) 32

The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "GHGs" as defined under AB 32 include CO_2, CH_4, N_2O,

hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."

CARB approved the 1990 GHG emissions level of 427 million metric ton of CO_2 equivalent per year ($MMTCO_2e$) on December 6, 2007 (15). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a "business as usual" (BAU) scenario were estimated to be 596 $MMTCO_2e$, which do not account for reductions from AB 32 regulations (16). At that level, a 28.4% reduction was required to achieve the 427 $MMTCO_2e$ 1990 inventory. In October 2010, CARB prepared an updated BAU 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 $MMTCO_2e$. Therefore, under the updated forecast, a 21.7% reduction from BAU is required to achieve 1990 levels (17).

Progress in Achieving AB 32 Targets and Remaining Reductions Required

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by CARB for 2000 through 2012 (18). The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 $MMTCO_2e$ (AB 32 2020 target)
- 2000: 463 $MMTCO_2e$ (an average 8% reduction needed to achieve 1990 base)
- 2010: 450 $MMTCO_2e$ (an average 5% reduction needed to achieve 1990 base)

CARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, CARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4% and the latest reduction from 2020 BAU is 21.7%.

- 2020: 545 $MMTCO_2e$ BAU (an average 21.7% reduction from BAU needed to achieve 1990 base)

Senate Bill (SB) 32

On September 8, 2016, Governor Jerry Brown signed the SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a

statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (19).

AB 197

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

Executive Order B-55-18 and SB 100

Executive Order B-55-18 and SB 100. SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

Title 24 California Code of Regulations (CCR)

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2025 California Green Building Code Standards that became effect on January 1, 2026. The Project would be required to comply with the applicable standards in place at the time plan check submittals are made.

SJVAPCD

The SJVAPCD is the agency responsible for air quality planning and regulation in the Basin. The has SJVAPCD adopted a Climate Change Action Plan (CCAP). The CCAP directed the SJVAPCD to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change.

Therefore, the SJVAPCD adopted the guidance in December 2009, *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (SJVAPCD's GHG Guidance). The SJVAPCD also adopted a policy: *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency.* These were based on Best Performance Standards (BPS), to assess significance of project-specific GHG emissions during the environmental review process under CEQA. Projects implementing BPS in accordance with SJVAPCD's guidance are considered to have a less than significant individual and cumulative impact.

PROJECT GHG IMPACTS

STANDARDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G thresholds, to determine whether impacts from GHG emissions are significant. Would the project:

- Threshold 1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Threshold 2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

It is important to note that SJVAPCD has not adopted thresholds of significance for GHG emissions from an individual Project. CARB is currently using existing data from the industrial sector to formulate a proposed threshold. At this time, a significance threshold of 3,000 $MTCO_2e/yr$ is being used for operational emissions. This threshold is based on the CEQA proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the *Final Staff Report.* SJVAPCD supports the use of the interim thresholds as established by CARB when adopted thresholds are not applicable (20).

GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 1

Would the Project have the potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment?

PROJECT GHG EMISSIONS SUMMARY

The estimated GHG emissions for Project are summarized in Table 6. The estimated GHG emissions include emissions from Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O), and Refrigerants (R). As shown in Table 6, the Project would generate a total of approximately 17.93 $MTCO_2e/yr$. Detailed construction model outputs are presented in Appendix 1.

TABLE 6: TOTAL PROJECT GHG EMISSIONS

Source	Total CO2E
Annual Construction Emissions Amortized Over 30 Years	17.93
Total	17.93
Screening Threshold	3,000
Threshold Exceeded?	NO

Notes:
CalEEMod construction and operational-source (unmitigated) emissions are presented in Appendix 1.

As discussed previously, a screening threshold of 3,000 $MTCO_2e/yr$ to determine if additional analysis is required. This approach is a widely accepted screening threshold used by the numerous cities in the SJVAPCD staff's proposed GHG screening threshold for stationary source emissions for industrial projects, as described in the SQVAPCD *Final Staff Report*.

As shown in Table 6, the Project will result in approximately 17.93 $MTCO_2e/yr$; the proposed Project would not exceed the screening threshold of 3,000 $MTCO_2e/yr$. This would be considered a less than significant impact.

GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 2

Would the Project have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

Pursuant to 15604.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (21).

The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas (GHG) emissions by 85% 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 (22).

The Project is consistent with the general plan land use designation, density, building intensity, and applicable policies specified for the Project area in Kern COG's 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which pursuant to SB 375 calls for the integration of transportation, land-use and housing policies to plan for achievement of the GHG-emissions target for the region. Thus, a less than significant impact related to GHG emissions from Project construction and operation would occur and no mitigation is required.

CONCLUSION

In summary, the results of the assessment indicate that the Project would result in a less than significant with respect to air quality and GHGs.

If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

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APPENDIX 1:

CALEEMOD EMISSIONS MODEL OUTPUTS

17090 - Frazier Park Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	17090 - Frazier Park
Construction Start Date	11/2/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	6.30000
Precipitation (days)	5.20000
Location	34.82472952461056, -118.95021090760248
County	Kern-San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2943
EDFZ	9
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.44

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
Other Non-Asphalt Surfaces	11.5960	1000sqft	0.26621	0.00000	0.00000	—	—	Well No. 8

User Defined Linear	3.47000	Mile	40.7200	0.00000	0.00000	—	—	Replacement Pipelines

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.	2.96541	2.49360	21.9478	22.5525	0.05446	0.87014	0.04889	0.91903	0.80053	0.01146	0.81199	—	5,925.49	5,925.49	0.23888	0.04944	0.15620	5,946.35
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.43384	5.41064	50.1067	47.0610	0.16646	2.22966	6.34405	8.57371	2.05159	2.83059	4.88219	—	21,268.8	21,268.8	0.49137	1.93118	0.73618	21,857.4
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.73124	0.60976	5.78630	5.59828	0.01644	0.21690	0.44910	0.66600	0.19991	0.18411	0.38402	—	1,912.29	1,912.29	0.06179	0.08832	0.49991	1,940.66
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13345	0.11128	1.05600	1.02169	0.00300	0.03959	0.08196	0.12154	0.03648	0.03360	0.07008	—	316.602	316.602	0.01023	0.01462	0.08277	321.298

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.96541	2.49360	21.9478	22.5525	0.05446	0.87014	0.04889	0.91903	0.80053	0.01146	0.81199	—	5,925.49	5,925.49	0.23888	0.04944	0.15620	5,946.35
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	6.43384	5.41064	50.1067	47.0610	0.16646	2.22966	6.34405	8.57371	2.05159	2.83059	4.88219	—	21,268.8	21,268.8	0.49137	1.93118	0.73618	21,857.4
2027	5.24823	4.29966	47.9403	41.0321	0.16644	1.55272	3.52745	5.08018	1.44644	0.94544	2.39187	—	20,996.1	20,996.1	0.49070	1.85645	0.68079	21,562.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.66132	0.55374	4.94417	4.93513	0.01104	0.21690	0.44910	0.66600	0.19991	0.18411	0.38402	—	1,293.50	1,293.50	0.04406	0.04701	0.30642	1,308.91
2027	0.73124	0.60976	5.78630	5.59828	0.01644	0.21499	0.15977	0.37477	0.19857	0.04255	0.24112	—	1,912.29	1,912.29	0.06179	0.08832	0.49991	1,940.66
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.12069	0.10106	0.90231	0.90066	0.00202	0.03959	0.08196	0.12154	0.03648	0.03360	0.07008	—	214.153	214.153	0.00730	0.00778	0.05073	216.705
2027	0.13345	0.11128	1.05600	1.02169	0.00300	0.03924	0.02916	0.06839	0.03624	0.00777	0.04400	—	316.602	316.602	0.01023	0.01462	0.08277	321.298

2.2.2. Onsite 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.94878	2.47724	21.9345	22.2969	0.05446	0.87014	0.00000	0.87014	0.80053	0.00000	0.80053	—	5,873.76	5,873.76	0.23827	0.04765	0.00000	5,893.92
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	6.25448	5.25415	45.5474	45.1131	0.08801	2.22581	5.80119	8.02700	2.04775	2.70123	4.74897	—	9,482.73	9,482.73	0.38466	0.07693	0.00000	9,515.27
2027	4.76750	4.00491	33.8721	36.9568	0.08799	1.32857	0.06179	1.39035	1.22228	0.00936	1.23164	—	9,480.53	9,480.53	0.38457	0.07691	0.00000	9,513.07
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	0.63698	0.53506	4.64856	4.68217	0.00947	0.21240	0.34061	0.55302	0.19541	0.15620	0.35161	—	1,018.05	1,018.05	0.04130	0.00826	0.00000	1,021.55
2027	0.70730	0.59418	5.19274	5.38724	0.01306	0.20534	0.00266	0.20800	0.18892	0.00040	0.18932	—	1,408.20	1,408.20	0.05712	0.01142	0.00000	1,413.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.11625	0.09765	0.84836	0.85450	0.00173	0.03876	0.06216	0.10093	0.03566	0.02851	0.06417	—	168.550	168.550	0.00684	0.00137	0.00000	169.129
2027	0.12908	0.10844	0.94768	0.98317	0.00238	0.03748	0.00049	0.03796	0.03448	0.00007	0.03455	—	233.143	233.143	0.00946	0.00189	0.00000	233.943

2.2.3. Offsite 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.01663	0.01637	0.01324	0.25562	0.00000	0.00000	0.04889	0.04889	0.00000	0.01146	0.01146	—	51.7285	51.7285	0.00062	0.00179	0.15620	52.4336
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.49925	0.29943	14.3933	4.25632	0.07845	0.22416	3.46567	3.68982	0.22416	0.93608	1.16024	—	11,786.1	11,786.1	0.10671	1.85425	0.73618	12,342.1
2027	0.48073	0.29475	14.0682	4.07539	0.07845	0.22416	3.46567	3.68982	0.22416	0.93608	1.16024	—	11,515.6	11,515.6	0.10613	1.77953	0.68079	12,049.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.02434	0.01868	0.29561	0.25296	0.00158	0.00450	0.10848	0.11298	0.00450	0.02791	0.03241	—	275.442	275.442	0.00277	0.03875	0.30642	287.365
2027	0.02394	0.01558	0.59356	0.21105	0.00338	0.00965	0.15711	0.16676	0.00965	0.04215	0.05180	—	504.096	504.096	0.00466	0.07689	0.49991	527.627
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.00444	0.00341	0.05395	0.04617	0.00029	0.00082	0.01980	0.02062	0.00082	0.00509	0.00592	—	45.6025	45.6025	0.00046	0.00642	0.05073	47.5766
2027	0.00437	0.00284	0.10832	0.03852	0.00062	0.00176	0.02867	0.03043	0.00176	0.00769	0.00945	—	83.4588	83.4588	0.00077	0.01273	0.08277	87.3546

3. Construction Emissions Details

3.1. Site Preparation (2026)

3.1.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.56018	3.83182	34.6139	31.0055	0.05105	1.76500	—	1.76500	1.62380	—	1.62380	—	5,531.64	5,531.64	0.22439	0.04488	—	5,550.63
Dust From Material Movement	—	—	—	—	—	—	5.66228	5.66228	—	2.68618	2.68618	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12494	0.10498	0.94833	0.84946	0.00140	0.04836	—	0.04836	0.04449	—	0.04449	—	151.552	151.552	0.00615	0.00123	—	152.072
Dust From Material Movement	—	—	—	—	—	—	0.15513	0.15513	—	0.07359	0.07359	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02280	0.01916	0.17307	0.15503	0.00026	0.00883	—	0.00883	0.00812	—	0.00812	—	25.0911	25.0911	0.00102	0.00020	—	25.1773

Dust From Material Movement	—	—	—	—	—	—	0.02831	0.02831	—	0.01343	0.01343	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07558	0.06698	0.08063	0.82968	0.00000	0.00000	0.21390	0.21390	0.00000	0.05014	0.05014	—	202.639	202.639	0.00386	0.00822	0.01976	205.204
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00210	0.00187	0.00199	0.02481	0.00000	0.00000	0.00584	0.00584	0.00000	0.00137	0.00137	—	5.76708	5.76708	0.00010	0.00023	0.00902	5.84557
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00038	0.00034	0.00036	0.00453	0.00000	0.00000	0.00107	0.00107	0.00000	0.00025	0.00025	—	0.95481	0.95481	0.00002	0.00004	0.00149	0.96780
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Grading (2026)

3.2.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.74687	3.98869	35.7452	33.2023	0.05438	1.77365	—	1.77365	1.63176	—	1.63176	—	5,892.58	5,892.58	0.23903	0.04781	—	5,912.80
Dust From Material Movement	—	—	—	—	—	—	5.66333	5.66333	—	2.68634	2.68634	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14306	0.12021	1.07725	1.00062	0.00164	0.05345	—	0.05345	0.04918	—	0.04918	—	177.584	177.584	0.00720	0.00144	—	178.194
Dust From Material Movement	—	—	—	—	—	—	0.17068	0.17068	—	0.08096	0.08096	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02611	0.02194	0.19660	0.18261	0.00030	0.00976	—	0.00976	0.00897	—	0.00897	—	29.4011	29.4011	0.00119	0.00024	—	29.5020

Dust From Material Movement	—	—	—	—	—	—	0.03115	0.03115	—	0.01477	0.01477	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08638	0.07654	0.09215	0.94821	0.00000	0.00000	0.24446	0.24446	0.00000	0.05730	0.05730	—	231.587	231.587	0.00441	0.00939	0.02258	234.518
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00661	0.00340	0.24499	0.05150	0.00135	0.00385	0.05393	0.05778	0.00385	0.01477	0.01861	—	197.064	197.064	0.00173	0.03162	0.01212	206.542
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00264	0.00235	0.00251	0.03120	0.00000	0.00000	0.00734	0.00734	0.00000	0.00172	0.00172	—	7.25004	7.25004	0.00012	0.00028	0.01134	7.34872
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00020	0.00011	0.00721	0.00153	0.00004	0.00012	0.00162	0.00174	0.00012	0.00044	0.00056	—	5.93635	5.93635	0.00005	0.00095	0.00608	6.22769
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00048	0.00043	0.00046	0.00569	0.00000	0.00000	0.00134	0.00134	0.00000	0.00031	0.00031	—	1.20033	1.20033	0.00002	0.00005	0.00188	1.21666
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00004	0.00002	0.00132	0.00028	0.00001	0.00002	0.00030	0.00032	0.00002	0.00008	0.00010	—	0.98283	0.98283	0.00001	0.00016	0.00101	1.03107

3.3. Building Construction (2026)

3.3.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.02999	2.54548	23.2943	22.5810	0.05448	0.92787	—	0.92787	0.85364	—	0.85364	—	5,875.67	5,875.67	0.23834	0.04767	—	5,895.83
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18382	0.15442	1.41316	1.36989	0.00330	0.05629	—	0.05629	0.05179	—	0.05179	—	356.449	356.449	0.01446	0.00289	—	357.673
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03355	0.02818	0.25790	0.25000	0.00060	0.01027	—	0.01027	0.00945	—	0.00945	—	59.0143	59.0143	0.00239	0.00048	—	59.2168
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - 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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01728	0.01531	0.01843	0.18964	0.00000	0.00000	0.04889	0.04889	0.00000	0.01146	0.01146	—	46.3174	46.3174	0.00088	0.00188	0.00452	46.9037
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00106	0.00094	0.00101	0.01256	0.00000	0.00000	0.00296	0.00296	0.00000	0.00069	0.00069	—	2.91885	2.91885	0.00005	0.00011	0.00457	2.95858
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00019	0.00017	0.00018	0.00229	0.00000	0.00000	0.00054	0.00054	0.00000	0.00013	0.00013	—	0.48325	0.48325	0.00001	0.00002	0.00076	0.48983
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Building Construction (2027)

3.4.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.94878	2.47724	21.9345	22.2969	0.05446	0.87014	—	0.87014	0.80053	—	0.80053	—	5,873.76	5,873.76	0.23827	0.04765	—	5,893.92

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.94878	2.47724	21.9345	22.2969	0.05446	0.87014	—	0.87014	0.80053	—	0.80053	—	5,873.76	5,873.76	0.23827	0.04765	—	5,893.92
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62900	0.52841	4.67880	4.75609	0.01162	0.18561	—	0.18561	0.17076	—	0.17076	—	1,252.92	1,252.92	0.05082	0.01016	—	1,257.22
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11479	0.09644	0.85388	0.86799	0.00212	0.03387	—	0.03387	0.03116	—	0.03116	—	207.434	207.434	0.00841	0.00168	—	208.146
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01663	0.01637	0.01324	0.25562	0.00000	0.00000	0.04889	0.04889	0.00000	0.01146	0.01146	—	51.7285	51.7285	0.00062	0.00179	0.15620	52.4336
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01504	0.01460	0.01673	0.17417	0.00000	0.00000	0.04889	0.04889	0.00000	0.01146	0.01146	—	45.3962	45.3962	0.00079	0.00188	0.00406	45.9798
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00323	0.00315	0.00319	0.04069	0.00000	0.00000	0.01039	0.01039	0.00000	0.00244	0.00244	—	10.0584	10.0584	0.00015	0.00038	0.01438	10.1903
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00059	0.00058	0.00058	0.00743	0.00000	0.00000	0.00190	0.00190	0.00000	0.00044	0.00044	—	1.66528	1.66528	0.00002	0.00006	0.00238	1.68712
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Linear, Grading & Excavation (2026)

3.5.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50761	1.26546	9.80220	11.9108	0.02505	0.45216	—	0.45216	0.41599	—	0.41599	—	2,655.16	2,655.16	0.10771	0.02154	—	2,664.28

Dust From Material Movement	—	—	—	—	—	—	0.13787	0.13787	—	0.01489	0.01489	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14870	0.12481	0.96679	1.17477	0.00247	0.04460	—	0.04460	0.04103	—	0.04103	—	261.879	261.879	0.01062	0.00212	—	262.778
Dust From Material Movement	—	—	—	—	—	—	0.01360	0.01360	—	0.00147	0.00147	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02714	0.02278	0.17644	0.21440	0.00045	0.00814	—	0.00814	0.00749	—	0.00749	—	43.3571	43.3571	0.00176	0.00035	—	43.5059
Dust From Material Movement	—	—	—	—	—	—	0.00248	0.00248	—	0.00027	0.00027	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08638	0.07654	0.09215	0.94821	0.00000	0.00000	0.24446	0.24446	0.00000	0.05730	0.05730	—	231.587	231.587	0.00441	0.00939	0.02258	234.518
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00865	0.00768	0.00821	0.10209	0.00000	0.00000	0.02403	0.02403	0.00000	0.00563	0.00563	—	23.7274	23.7274	0.00039	0.00093	0.03712	24.0504
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00158	0.00140	0.00150	0.01863	0.00000	0.00000	0.00439	0.00439	0.00000	0.00103	0.00103	—	3.92834	3.92834	0.00006	0.00015	0.00615	3.98181
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Linear, Drainage, Utilities, & Sub-Grade (2026)

3.6.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.86377	1.56553	12.4191	14.6881	0.03353	0.49603	—	0.49603	0.45635	—	0.45635	—	3,607.07	3,607.07	0.14632	0.02926	—	3,619.44

Dust From Material Movement	—	—	—	—	—	—	0.06179	0.06179	—	0.00936	0.00936	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03647	0.03064	0.24303	0.28744	0.00066	0.00971	—	0.00971	0.00893	—	0.00893	—	70.5884	70.5884	0.00286	0.00057	—	70.8306
Dust From Material Movement	—	—	—	—	—	—	0.00121	0.00121	—	0.00018	0.00018	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00666	0.00559	0.04435	0.05246	0.00012	0.00177	—	0.00177	0.00163	—	0.00163	—	11.6867	11.6867	0.00047	0.00009	—	11.7268
Dust From Material Movement	—	—	—	—	—	—	0.00022	0.00022	—	0.00003	0.00003	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09717	0.08611	0.10367	1.06673	0.00000	0.00000	0.27502	0.27502	0.00000	0.06446	0.06446	—	260.535	260.535	0.00496	0.01057	0.02540	263.833
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.38480	0.19800	14.2712	2.99994	0.07845	0.22416	3.14176	3.36591	0.22416	0.86016	1.08431	—	11,479.3	11,479.3	0.10087	1.84181	0.70626	12,031.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00193	0.00171	0.00183	0.02279	0.00000	0.00000	0.00536	0.00536	0.00000	0.00126	0.00126	—	5.29630	5.29630	0.00009	0.00021	0.00829	5.36838
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00775	0.00402	0.27285	0.05798	0.00154	0.00439	0.06133	0.06571	0.00439	0.01679	0.02118	—	224.546	224.546	0.00197	0.03604	0.23000	235.566
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00035	0.00031	0.00033	0.00416	0.00000	0.00000	0.00098	0.00098	0.00000	0.00023	0.00023	—	0.87686	0.87686	0.00001	0.00003	0.00137	0.88880
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00141	0.00073	0.04979	0.01058	0.00028	0.00080	0.01119	0.01199	0.00080	0.00306	0.00387	—	37.1761	37.1761	0.00033	0.00597	0.03808	39.0006

3.7. Linear, Drainage, Utilities, & Sub-Grade (2027)

3.7.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.81872	1.52768	11.9375	14.6599	0.03353	0.45842	—	0.45842	0.42175	—	0.42175	—	3,606.77	3,606.77	0.14631	0.02926	—	3,619.15

Dust From Material Movement	—	—	—	—	—	—	0.06179	0.06179	—	0.00936	0.00936	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07830	0.06577	0.51395	0.63115	0.00144	0.01974	—	0.01974	0.01816	—	0.01816	—	155.282	155.282	0.00630	0.00126	—	155.815
Dust From Material Movement	—	—	—	—	—	—	0.00266	0.00266	—	0.00040	0.00040	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01429	0.01200	0.09379	0.11518	0.00026	0.00360	—	0.00360	0.00331	—	0.00331	—	25.7087	25.7087	0.00104	0.00021	—	25.7969
Dust From Material Movement	—	—	—	—	—	—	0.00049	0.00049	—	0.00007	0.00007	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08462	0.08214	0.09410	0.97973	0.00000	0.00000	0.27502	0.27502	0.00000	0.06446	0.06446	—	255.353	255.353	0.00446	0.01057	0.02283	258.636
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.38106	0.19800	13.9574	2.92149	0.07845	0.22416	3.14176	3.36591	0.22416	0.86016	1.08431	—	11,214.8	11,214.8	0.10087	1.76709	0.65390	11,744.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00366	0.00358	0.00362	0.04619	0.00000	0.00000	0.01180	0.01180	0.00000	0.00277	0.00277	—	11.4195	11.4195	0.00017	0.00043	0.01633	11.5693
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01705	0.00885	0.58675	0.12417	0.00338	0.00965	0.13492	0.14457	0.00965	0.03695	0.04660	—	482.618	482.618	0.00434	0.07608	0.46921	505.867
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00067	0.00065	0.00066	0.00843	0.00000	0.00000	0.00215	0.00215	0.00000	0.00050	0.00050	—	1.89062	1.89062	0.00003	0.00007	0.00270	1.91542
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00311	0.00161	0.10708	0.02266	0.00062	0.00176	0.02462	0.02638	0.00176	0.00674	0.00850	—	79.9029	79.9029	0.00072	0.01260	0.07768	83.7521

4. Operations Emissions Details

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
Site Preparation	Site Preparation	11/2/2026	11/13/2026	5.00000	10.00000	—
Grading	Grading	11/16/2026	11/30/2026	5.00000	11.0000	—
Building Construction	Building Construction	12/1/2026	4/19/2027	5.00000	100.0000	—
Linear, Grading & Excavation	Linear, Grading & Excavation	11/2/2026	12/21/2026	5.00000	36.0000	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	12/22/2026	1/22/2027	5.00000	24.0000	—

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
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Crawler Tractors	Diesel	Average	4.00000	8.00000	87.0000	0.43000
Grading	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Grading	Crawler Tractors	Diesel	Average	3.00000	8.00000	87.0000	0.43000
Building Construction	Bore/Drill Rigs	Diesel	Average	1.000000	8.00000	83.0000	0.50000
Building Construction	Plate Compactors	Diesel	Average	1.000000	8.00000	8.00000	0.43000
Building Construction	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Building Construction	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.000000	8.00000	87.0000	0.43000

Linear, Grading & Excavation	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Linear, Grading & Excavation	Plate Compactors	Diesel	Average	1.000000	8.00000	8.00000	0.43000
Linear, Grading & Excavation	Pavers	Diesel	Average	1.000000	8.00000	81.0000	0.42000
Linear, Grading & Excavation	Rollers	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Linear, Grading & Excavation	Off-Highway Trucks	Diesel	Average	1.000000	8.00000	376.000	0.38000
Linear, Grading & Excavation	Signal Boards	Diesel	Average	1.000000	8.00000	6.00000	0.82000
Linear, Drainage, Utilities, & Sub-Grade	Trenchers	Diesel	Average	1.000000	8.00000	40.0000	0.50000
Linear, Drainage, Utilities, & Sub-Grade	Cranes	Diesel	Average	1.000000	8.00000	367.000	0.29000
Linear, Drainage, Utilities, & Sub-Grade	Forklifts	Diesel	Average	1.000000	8.00000	82.0000	0.20000
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.000000	8.00000	8.00000	0.43000
Linear, Drainage, Utilities, & Sub-Grade	Rollers	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Linear, Drainage, Utilities, & Sub-Grade	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Linear, Drainage, Utilities, & Sub-Grade	Off-Highway Trucks	Diesel	Average	1.000000	8.00000	376.000	0.38000
Linear, Drainage, Utilities, & Sub-Grade	Pavers	Diesel	Average	1.000000	8.00000	81.0000	0.42000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	17.5000	17.3000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.6000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	17.3000	LDA,LDT1,LDT2
Grading	Vendor	—	10.6000	HHDT,MHDT
Grading	Hauling	2.90909	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	4.00000	17.3000	LDA,LDT1,LDT2
Building Construction	Vendor	0.00000	10.6000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	Worker	20.0000	17.3000	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	0.00000	10.6000	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00000	20.0000	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Worker	22.5000	17.3000	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00000	10.6000	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	169.458	20.0000	HHDT
Linear, Drainage, Utilities, & Sub-Grade	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

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)
Site Preparation	—	—	35.0000	0.00000	0.00000
Grading	252.000	—	38.5000	0.00000	0.00000
Linear, Grading & Excavation	—	—	40.7200	0.00000	0.00000
Linear, Drainage, Utilities, & Sub-Grade	—	32,533.0	40.7200	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00000	531.983	0.03300	0.00400
2027	0.00000	531.983	0.03300	0.00400

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	31.7200	annual days of extreme heat
Extreme Precipitation	4.30000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	28.7900	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	4	0	0	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	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	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	4	1	1	4
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	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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	77.0255
AQ-PM	1.26945
AQ-DPM	2.72558
Drinking Water	62.9699
Lead Risk Housing	42.7221
Pesticides	0.00000
Toxic Releases	5.98900
Traffic	2.10000
Effect Indicators	—
CleanUp Sites	0.00000
Groundwater	0.00000
Haz Waste Facilities/Generators	0.00000
Impaired Water Bodies	0.00000
Solid Waste	9.66781
Sensitive Population	—
Asthma	23.4172

Cardio-vascular	39.6186
Low Birth Weights	65.1783
Socioeconomic Factor Indicators	—
Education	58.5042
Housing	56.8568
Linguistic	21.4237
Poverty	88.6181
Unemployment	86.7517

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	33.23495445
Employed	4.606698319
Median HI	18.77325805
Education	—
Bachelor's or higher	36.87925061
High school enrollment	100
Preschool enrollment	52.2776851
Transportation	—
Auto Access	60.64416784
Active commuting	1.039394328
Social	—
2-parent households	61.22160914
Voting	66.03361992
Neighborhood	—
Alcohol availability	60.79815219

Park access	81.35506224
Retail density	12.89618889
Supermarket access	51.55909149
Tree canopy	76.90234826
Housing	—
Homeownership	41.79391762
Housing habitability	67.50930322
Low-inc homeowner severe housing cost burden	95.50878994
Low-inc renter severe housing cost burden	48.60772488
Uncrowded housing	84.29359682
Health Outcomes	—
Insured adults	56.82022328
Arthritis	0.0
Asthma ER Admissions	82.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	2.9
Cognitively Disabled	74.6
Physically Disabled	5.6
Heart Attack ER Admissions	55.1
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	62.3

Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	88.1
SLR Inundation Area	0.0
Children	24.2
Elderly	46.6
English Speaking	69.9
Foreign-born	7.4
Outdoor Workers	4.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.4
Traffic Density	3.1
Traffic Access	0.0
Other Indices	—
Hardship	52.4
Other Decision Support	—
2016 Voting	61.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	16.0000
Healthy Places Index Score for Project Location (b)	35.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
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

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Schedule based on client provided data
Construction: Off-Road Equipment	Tractor/Loader/Backhoe (T/L/B) replaced with Crawler Tractor to accurately calculate disturbance for Site Preparation and Grading phases. Standard 8-hour work days assumed.
Construction: Trips and VMT	Based on client provided information, pipeline installation would require at least 2 worker trips per day.

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	11/17/2026	11/2/2026
Site Preparation	Site Preparation	End Date	11/18/2026	11/13/2026
Site Preparation	Site Preparation	Work Days per Phase	1.000000	10.00000

Grading	Grading	Start Date	11/19/2026	11/16/2026
Grading	Grading	End Date	11/21/2026	11/30/2026
Grading	Grading	Work Days per Phase	2.00000	11.0000
Building Construction	Building Construction	Start Date	11/22/2026	12/1/2026
Building Construction	Building Construction	End Date	4/11/2027	4/19/2027
Linear, Grading & Excavation	Linear, Grading & Excavation	Start Date	11/11/2026	11/2/2026
Linear, Grading & Excavation	Linear, Grading & Excavation	End Date	12/14/2026	12/21/2026
Linear, Grading & Excavation	Linear, Grading & Excavation	Work Days per Phase	24.0000	36.0000
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	Start Date	12/15/2026	12/22/2026
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	End Date	1/13/2027	1/22/2027
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	Work Days per Phase	21.0000	24.0000

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Site Preparation	Crawler Tractors	Horsepower	84.0000	87.0000
Site Preparation	Crawler Tractors	Load Factor	0.37000	0.43000
Grading	Excavators	Number per Day	2.00000	1.000000
Grading	Rubber Tired Dozers	Number per Day	1.000000	3.00000
Grading	Crawler Tractors	Number per Day	2.00000	3.00000
Grading	Crawler Tractors	Horsepower	84.0000	87.0000
Grading	Crawler Tractors	Load Factor	0.37000	0.43000
Building Construction	Bore/Drill Rigs	Hours Per Day	7.00000	8.00000
Building Construction	Bore/Drill Rigs	Horsepower	367.000	83.0000
Building Construction	Bore/Drill Rigs	Load Factor	0.29000	0.50000
Building Construction	Plate Compactors	Number per Day	3.00000	1.000000
Building Construction	Plate Compactors	Horsepower	82.0000	8.00000

Building Construction	Plate Compactors	Load Factor	0.20000	0.43000
Building Construction	Rubber Tired Dozers	Horsepower	14.0000	367.000
Building Construction	Rubber Tired Dozers	Load Factor	0.74000	0.40000
Building Construction	Tractors/Loaders/Backhoes	Number per Day	3.00000	1.000000
Building Construction	Tractors/Loaders/Backhoes	Hours Per Day	7.00000	8.00000
Building Construction	Scrapers	Number per Day	1.000000	2.00000
Building Construction	Scrapers	Horsepower	46.0000	423.000
Building Construction	Scrapers	Load Factor	0.45000	0.48000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Building Construction	Worker	One-Way Trips per Day	0.00000	4.00000